

# Sequence Listing

<110> Ashkenazi, Avi  
 Baker Kevin P.  
 Botstein, David  
 Desnoyers, Luc  
 Eaton, Dan  
 Ferrara, Napoleon  
 Filvaroff, Ellen  
 Fong, Sherman  
 Gao, Wei-Qiang  
 Gerber, Hanspeter  
 Gerritsen, Mary E.  
 Goddard, Audrey  
 Godowski, Paul J.  
 Grimaldi, J. Christopher  
 Gurney, Austin L.  
 Hillan, Kenneth J  
 Kljavin, Ivar J.  
 Kuo, Sophia S.  
 Napier, Mary A.  
 Pan, James;  
 Paoni, Nicholas F.  
 Roy, Margaret Ann  
 Shelton, David L.  
 Stewart, Timothy A.  
 Tumas, Daniel  
 Williams, P. Mickey  
 Wood, William I.

<120> Secreted and Transmembrane Polypeptides and Nucleic  
 Acids Encoding the Same

<130> P2630P1C67

<150> 09/918585  
 <151> 2001-07-30

<150> 60/062250  
 <151> 1997-10-17

<150> 60/064249  
 <151> 1997-11-03

<150> 60/065311  
 <151> 1997-11-13

<150> 60/066364  
 <151> 1997-11-21

<150> 60/077450  
 <151> 1998-03-10

<150> 60/077632  
 <151> 1998-03-11

<150> 60/077641  
 <151> 1998-03-11



<150> 60/077649  
 <151> 1998-03-11  
  
 <150> 60/077791  
 <151> 1998-03-12  
  
 <150> 60/078004  
 <151> 1998-03-13  
  
 <150> 60/078886  
 <151> 1998-03-20  
  
 <150> 60/078936  
 <151> 1998-03-20  
  
 <150> 60/078910  
 <151> 1998-03-20  
  
 <150> 60/078939  
 <151> 1998-03-20  
  
 <150> 60/079294  
 <151> 1998-03-25  
  
 <150> 60/079656  
 <151> 1998-03-26  
  
 <150> 60/079664  
 <151> 1998-03-27  
  
 <150> 60/079689  
 <151> 1998-03-27  
  
 <150> 60/079663  
 <151> 1998-03-27  
  
 <150> 60/079728  
 <151> 1998-03-27  
  
 <150> 60/079786  
 <151> 1998-03-27  
  
 <150> 60/079920  
 <151> 1998-03-30  
  
 <150> 60/079923  
 <151> 1998-03-30  
  
 <150> 60/080105  
 <151> 1998-03-31  
  
 <150> 60/080107  
 <151> 1998-03-31  
  
 <150> 60/080165  
 <151> 1998-03-31  
  
 <150> 60/080194



60/080327  
60/080328  
60/080333  
60/080334  
60/081070  
60/081049  
60/081071  
60/081195  
60/081203  
60/081229  
60/081955  
60/081817  
60/081819  
60/081952  
60/081838  
60/082568  
60/082569  
60/082704  
60/082804

<151> 1998-03-31  
  
<150> 60/080327  
<151> 1998-04-01  
  
<150> 60/080328  
<151> 1998-04-01  
  
<150> 60/080333  
<151> 1998-04-01  
  
<150> 60/080334  
<151> 1998-04-01  
  
<150> 60/081070  
<151> 1998-04-08  
  
<150> 60/081049  
<151> 1998-04-08  
  
<150> 60/081071  
<151> 1998-04-08  
  
<150> 60/081195  
<151> 1998-04-08  
  
<150> 60/081203  
<151> 1998-04-09  
  
<150> 60/081229  
<151> 1998-04-09  
  
<150> 60/081955  
<151> 1998-04-15  
  
<150> 60/081817  
<151> 1998-04-15  
  
<150> 60/081819  
<151> 1998-04-15  
  
<150> 60/081952  
<151> 1998-04-15  
  
<150> 60/081838  
<151> 1998-04-15  
  
<150> 60/082568  
<151> 1998-04-21  
  
<150> 60/082569  
<151> 1998-04-21  
  
<150> 60/082704  
<151> 1998-04-22  
  
<150> 60/082804  
<151> 1998-04-22



1042001 2801001

<150> 60/082700  
<151> 1998-04-22  
  
<150> 60/082797  
<151> 1998-04-22  
  
<150> 60/082796  
<151> 1998-04-23  
  
<150> 60/083336  
<151> 1998-04-27  
  
<150> 60/083322  
<151> 1998-04-28  
  
<150> 60/083392  
<151> 1998-04-29  
  
<150> 60/083495  
<151> 1998-04-29  
  
<150> 60/083496  
<151> 1998-04-29  
  
<150> 60/083499  
<151> 1998-04-29  
  
<150> 60/083545  
<151> 1998-04-29  
  
<150> 60/083554  
<151> 1998-04-29  
  
<150> 60/083558  
<151> 1998-04-29  
  
<150> 60/083559  
<151> 1998-04-29  
  
<150> 60/083500  
<151> 1998-04-29  
  
<150> 60/083742  
<151> 1998-04-30  
  
<150> 60/084366  
<151> 1998-05-05  
  
<150> 60/084414  
<151> 1998-05-06  
  
<150> 60/084441  
<151> 1998-05-06  
  
<150> 60/084637  
<151> 1998-05-07  
  
<150> 60/084639







[illegible]



<151> 1999-06-16  
 <150> 60/141037  
 <151> 1999-06-23  
 <150> 60/142680  
 <151> 1999-07-07  
 <150> 60/145698  
 <151> 1999-07-26  
 <150> 60/146222  
 <151> 1999-07-28  
 <150> 60/162506  
 <151> 1999-10-29  
 <150> 09/040220  
 <151> 1998- 03-17  
 <150> 09/105413  
 <151> 1998-06-26  
 <150> 09/168978  
 <151> 1998-10-07  
 <150> 09/184216  
 <151> 1998-11-02  
 <150> 09/187368  
 <151> 1998-11-06  
 <150> 09/202054  
 <151> 1998-12-07  
 <150> 09/218517  
 <151> 1998-12-22  
 <150> 09/254465  
 <151> 1999-03-05  
 <150> 09/265686  
 <151> 1999-03-10  
 <150> 09/267213  
 <151> 1999-03-12  
 <150> 09/284291  
 <151> 1999-04-12  
 <150> 09/311832  
 <151> 1999-05-14  
 <150> 09/380137  
 <151> 1999-08-25  
 <150> 09/380138  
 <151> 1999-08-25







[illegible]



<150> PCT/US00/20710

<151> 2000-07-28

<150> PCT/US00/23328

<151> 2000-08-24

<150> PCT/US00/32678

<151> 2000-12-01

<150> PCT/US00/34956

<151> 2000-12-20

<150> PCT/US01/06520

<151> 2001-02-28

<150> PCT/US01/09552

<151> 2001-03-22

<150> PCT/US01/17092

<151> 2001-05-25

<150> PCT/US01/17800

<151> 2001-06-01

<150> PCT/US01/19692

<151> 2001-06-20

<150> PCT/US01/21066

<151> 2001-06-29

<150> PCT/US01/21735

<151> 2001-07-09

<160> 624

<210> 1

<211> 1743

<212> DNA

<213> Homo sapiens

<400> 1

ccagggtccaa ctgcacctcg gttctatcga ttgaattccc cggggaccc 50  
ctagagatcc ctcgacctcg acccacgcgt ccgccaagct ggccctgcac 100  
ggctgcaagg gaggctcctg tggacaggcc aggcagggtg gcctcaggag 150  
gtgcctccag gcggccagtg ggccctgaggc cccagcaagg gctaggggtcc 200  
atctccagtc ccaggacaca gcagcggcca ccatggccac gcctgggctc 250  
cagcagcatc agcagccccc aggaccgggg gaggcacagg tggccccac 300  
caccggagg agcagctcct gcccctgtcc gggggatgac tgattctcct 350  
ccgccaggcc acccagagga gaaggccacc ccgcctggag gcacaggcca 400  
tgaggggctc tcaggagggtg ctgctgatgt ggcttctggt gttggcagtg 450



ggcggcacag	agcacgccta	ccggcccggc	cgttaggggtg	tgtgctgtcc	500
cgggctcacg	gggacctgt	ctccgagtcg	ttcgtgcagc	gtgtgtacca	550
gcccttcctc	accacctgcg	acgggcaccg	ggcctgcagc	acctaccgaa	600
ccatttatag	gaccgcctac	cgccgcagcc	ctgggctggc	ccctgccagg	650
cctcgctacg	cgtgctgccc	cggttggaag	aggaccagcg	ggcttcctgg	700
ggcctgtgga	gcagcaatat	gccagccgcc	atgccggaac	ggagggagct	750
gtgtccagcc	tggccgctgc	cgctgccctg	caggatggcg	gggtgacact	800
tgccagtcag	atgtggatga	atgcagtgt	aggaggggcg	gctgtcccca	850
gcgctgcata	aacaccgccg	gcagttactg	gtgccagtgt	tgggaggggc	900
acagcctgtc	tgcagacggg	acactctgtg	tgcccaaggg	agggccccc	950
aggggtggccc	ccaacccgac	aggagtggac	agtgcaatga	aggaagaagt	1000
gcagaggctg	cagtccaggg	tggacctgct	ggaggagaag	ctgcagctgg	1050
tgttgggccc	actgcacagc	ctggcctcgc	aggcactgga	gcatgggctc	1100
ccggaccccc	gcagcctcct	ggtgcactcc	ttccagcagc	tcggccgcat	1150
cgactccctg	agcgagcaga	tttccttcct	ggaggagcag	ctggggtcct	1200
gctcctgcaa	gaaagactcg	tgactgcccc	gcgccccagg	ctggactgag	1250
cccctcacgc	cgccctgcag	cccccatgcc	cctgccaac	atgctggggg	1300
tccagaagcc	acctcggggt	gactgagcgg	aaggccaggc	agggccttcc	1350
tccttttct	cctccccctc	cctcgggagg	gtccccagac	cctggcatgg	1400
gatgggctgg	gatttttttt	gtgaatccac	ccctggctac	ccccaccctg	1450
gttaccacca	cggcatccca	aggccagggt	ggccctcagc	tgagggaagg	1500
tacgagttcc	cctgctggag	cctgggaccc	atggcacagg	ccaggcagcc	1550
cggaggctgg	gtggggcctc	agtggggggt	gctgcctgac	ccccagcaca	1600
ataaaaaatga	aacgtgaaaa	aaaaaaaaaa	aaaaaaaaaa	aaaaaaaaaa	1650
aaaaaaaaagg	gcggccgcga	ctctagagtc	gacctgcaga	agcttggccg	1700
ccatggccca	acttgtttat	tgcagcttat	aatggttaca	aat	1743

```
<210> 2
<211> 295
<212> PRT
<213> Homo sapiens
```



Met	Thr	Asp	Ser	Pro	Pro	Pro	Gly	His	Pro	Glu	Glu	Lys	Ala	Thr	1	5	10	15
Pro	Pro	Gly	Gly	Thr	Gly	His	Glu	Gly	Leu	Ser	Gly	Gly	Ala	Ala	20	25	30	
Asp	Val	Ala	Ser	Gly	Val	Gly	Ser	Gly	Arg	His	Arg	Ala	Arg	Leu	35	40	45	
Pro	Ala	Arg	Pro	Leu	Gly	Cys	Val	Leu	Ser	Arg	Ala	His	Gly	Asp	50	55	60	
Pro	Val	Ser	Glu	Ser	Phe	Val	Gln	Arg	Val	Tyr	Gln	Pro	Phe	Leu	65	70	75	
Thr	Thr	Cys	Asp	Gly	His	Arg	Ala	Cys	Ser	Thr	Tyr	Arg	Thr	Ile	80	85	90	
Tyr	Arg	Thr	Ala	Tyr	Arg	Arg	Ser	Pro	Gly	Leu	Ala	Pro	Ala	Arg	95	100	105	
Pro	Arg	Tyr	Ala	Cys	Cys	Pro	Gly	Trp	Lys	Arg	Thr	Ser	Gly	Leu	110	115	120	
Pro	Gly	Ala	Cys	Gly	Ala	Ala	Ile	Cys	Gln	Pro	Pro	Cys	Arg	Asn	125	130	135	
Gly	Gly	Ser	Cys	Val	Gln	Pro	Gly	Arg	Cys	Arg	Cys	Pro	Ala	Gly	140	145	150	
Trp	Arg	Gly	Asp	Thr	Cys	Gln	Ser	Asp	Val	Asp	Glu	Cys	Ser	Ala	155	160	165	
Arg	Arg	Gly	Gly	Cys	Pro	Gln	Arg	Cys	Ile	Asn	Thr	Ala	Gly	Ser	170	175	180	
Tyr	Trp	Cys	Gln	Cys	Trp	Glu	Gly	His	Ser	Leu	Ser	Ala	Asp	Gly	185	190	195	
Thr	Leu	Cys	Val	Pro	Lys	Gly	Gly	Pro	Pro	Arg	Val	Ala	Pro	Asn	200	205	210	
Pro	Thr	Gly	Val	Asp	Ser	Ala	Met	Lys	Glu	Glu	Val	Gln	Arg	Leu	215	220	225	
Gln	Ser	Arg	Val	Asp	Leu	Leu	Glu	Glu	Lys	Leu	Gln	Leu	Val	Leu	230	235	240	
Ala	Pro	Leu	His	Ser	Leu	Ala	Ser	Gln	Ala	Leu	Glu	His	Gly	Leu	245	250	255	
Pro	Asp	Pro	Gly	Ser	Leu	Leu	Val	His	Ser	Phe	Gln	Gln	Leu	Gly	260	265	270	
Arg	Ile	Asp	Ser	Leu	Ser	Glu	Gln	Ile	Ser	Phe	Leu	Glu	Glu	Gln	275	280	285	
Leu	Gly	Ser	Cys	Ser	Cys	Lys	Lys	Asp	Ser									



<210> 3  
 <211> 21  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 3  
 tggagcagca atatgccagc c 21

<210> 4  
 <211> 22  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 4  
 ttttccactc ctgtcgggtt gg 22

<210> 5  
 <211> 46  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 5  
 ggtgacactt gccagtcaga tgtggatgaa tgcagtgcta ggaggg 46

<210> 6  
 <211> 2945  
 <212> DNA  
 <213> Homo sapiens

<400> 6  
 cgctcgcccc gtcgcccctc gcctccccgc agagtcccct cgcggcagca 50  
 gatgtgtgtg gggtcagccc acggcgggga ctatggtgaa attcccggcg 100  
 ctcacgcact actggcccct gatccggttc ttggtgcccc tgggcatcac 150  
 caacatagcc atcgacttcg gggagcaggc cttgaaccgg ggcattgctg 200  
 ctgtcaagga ggatgcagtc gagatgctgg ccagctacgg gctggcgtag 250  
 tccctcatga agttcttcac gggccccatg agtgacttca aaaatgtggg 300  
 cctggtgttt gtgaacagca agagagacag gaccaaagcc gtccgtgtga 350  
 tgggtggtggc aggggccatc gctgccgtct ttcacacact gatagcttat 400  
 agtgatttag gatactacat tatcaataaa ctgcaccatg tggacgagtc 450







agctgtgccca tcgcgcctcg gtcaccctgc acagcaggcc acagactctc 1950  
ctgtccccct tcatcgctct taagaatcaa caggttaaaa ctcggttcc 2000  
tttgatttgc ttcccagtc catggccgta caaagagatg gagccccggt 2050  
ggcctcttaa atttcccttc tgccacggag ttcgaaacca tctactccac 2100  
acatgcagga ggcggtggc acgctgcagc ccggagtccc cggtcacact 2150  
gaggaacgga gacctgtgac cacagcaggc tgacagatgg acagaatctc 2200  
ccgtagaaaag gtttggtttg aaatgccccg ggggcagcaa actgacatgg 2250  
ttgaatgata gcatttcact ctgcgttctc ctagatctga gcaagctgtc 2300  
agttctcacc cccaccgtgt atatacatga gctaactttt ttaaattgtc 2350  
acaaaagcgc atctccagat tccagacct gccgcatgac ttttcctgaa 2400  
ggcttgcttt tccctcgctt ttctgaagg tcgcattaga gcgagtcaca 2450  
tggagcatcc taactttgca ttttagtttt tacagtgaac tgaagcttta 2500  
agtctcatcc agcattctaa tgccagggtg ctgtagggtg acttttgaag 2550  
tagatatatt acctggttct gctatcctta gtcataactc tgcggtacag 2600  
gtaattgaga atgtactacg gtacttccct cccacaccat acgataaagc 2650  
aagacatttt ataacgatac cagagtcact atgtggtcct ccctgaaata 2700  
acgcattcga aatccatgca gtgcagtata tttttctaag ttttgaaag 2750  
caggtttttt cttttaaaaa aattatagac acggttcact aaattgattt 2800  
agtcagaatt cctagactga aagaacctaa aaaaaaaaaat attttaaaga 2850  
tataaatata tgctgtatat gttatgtaat ttattttagg ctataataca 2900  
tttcctattt tcgcattttc aataaaatgt ctctaataca aaaaa 2945

<210> 7

<211> 492

<212> PRT

<213> Homo sapiens

<400> 7

Met	Val	Lys	Phe	Pro	Ala	Leu	Thr	His	Tyr	Trp	Pro	Leu	Ile	Arg
1				5					10					15

Phe	Leu	Val	Pro	Leu	Gly	Ile	Thr	Asn	Ile	Ala	Ile	Asp	Phe	Gly
				20					25					30

Glu	Gln	Ala	Leu	Asn	Arg	Gly	Ile	Ala	Ala	Val	Lys	Glu	Asp	Ala
				35				40						45

Val	Glu	Met	Leu	Ala	Ser	Tyr	Gly	Leu	Ala	Tyr	Ser	Leu	Met	Lys
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----



				50					55					60				
Phe	Phe	Thr	Gly	Pro 65	Met	Ser	Asp	Phe	Lys 70	Asn	Val	Gly	Leu	Val 75				
Phe	Val	Asn	Ser	Lys 80	Arg	Asp	Arg	Thr	Lys 85	Ala	Val	Leu	Cys	Met 90				
Val	Val	Ala	Gly	Ala 95	Ile	Ala	Ala	Val	Phe 100	His	Thr	Leu	Ile	Ala 105				
Tyr	Ser	Asp	Leu	Gly 110	Tyr	Tyr	Ile	Ile	Asn 115	Lys	Leu	His	His	Val 120				
Asp	Glu	Ser	Val	Gly 125	Ser	Lys	Thr	Arg	Arg 130	Ala	Phe	Leu	Tyr	Leu 135				
Ala	Ala	Phe	Pro	Phe 140	Met	Asp	Ala	Met	Ala 145	Trp	Thr	His	Ala	Gly 150				
Ile	Leu	Leu	Lys	His 155	Lys	Tyr	Ser	Phe	Leu 160	Val	Gly	Cys	Ala	Ser 165				
Ile	Ser	Asp	Val	Ile 170	Ala	Gln	Val	Val	Phe 175	Val	Ala	Ile	Leu	Leu 180				
His	Ser	His	Leu	Glu 185	Cys	Arg	Glu	Pro	Leu 190	Leu	Ile	Pro	Ile	Leu 195				
Ser	Leu	Tyr	Met	Gly 200	Ala	Leu	Val	Arg	Cys 205	Thr	Thr	Leu	Cys	Leu 210				
Gly	Tyr	Tyr	Lys	Asn 215	Ile	His	Asp	Ile	Ile 220	Pro	Asp	Arg	Ser	Gly 225				
Pro	Glu	Leu	Gly	Gly 230	Asp	Ala	Thr	Ile	Arg 235	Lys	Met	Leu	Ser	Phe 240				
Trp	Trp	Pro	Leu	Ala 245	Leu	Ile	Leu	Ala	Thr 250	Gln	Arg	Ile	Ser	Arg 255				
Pro	Ile	Val	Asn	Leu 260	Phe	Val	Ser	Arg	Asp 265	Leu	Gly	Gly	Ser	Ser 270				
Ala	Ala	Thr	Glu	Ala 275	Val	Ala	Ile	Leu	Thr 280	Ala	Thr	Tyr	Pro	Val 285				
Gly	His	Met	Pro	Tyr 290	Gly	Trp	Leu	Thr	Glu 295	Ile	Arg	Ala	Val	Tyr 300				
Pro	Ala	Phe	Asp	Lys 305	Asn	Asn	Pro	Ser	Asn 310	Lys	Leu	Val	Ser	Thr 315				
Ser	Asn	Thr	Val	Thr 320	Ala	Ala	His	Ile	Lys 325	Lys	Phe	Thr	Phe	Val 330				
Cys	Met	Ala	Leu	Ser 335	Leu	Thr	Leu	Cys	Phe 340	Val	Met	Phe	Trp	Thr 345				



Pro	Asn	Val	Ser	Glu	Lys	Ile	Leu	Ile	Asp	Ile	Ile	Gly	Val	Asp
				350					355					360
Phe	Ala	Phe	Ala	Glu	Leu	Cys	Val	Val	Pro	Leu	Arg	Ile	Phe	Ser
				365					370					375
Phe	Phe	Pro	Val	Pro	Val	Thr	Val	Arg	Ala	His	Leu	Thr	Gly	Trp
				380					385					390
Leu	Met	Thr	Leu	Lys	Lys	Thr	Phe	Val	Leu	Ala	Pro	Ser	Ser	Val
				395					400					405
Leu	Arg	Ile	Ile	Val	Leu	Ile	Ala	Ser	Leu	Val	Val	Leu	Pro	Tyr
				410					415					420
Leu	Gly	Val	His	Gly	Ala	Thr	Leu	Gly	Val	Gly	Ser	Leu	Leu	Ala
				425					430					435
Gly	Phe	Val	Gly	Glu	Ser	Thr	Met	Val	Ala	Ile	Ala	Ala	Cys	Tyr
				440					445					450
Val	Tyr	Arg	Lys	Gln	Lys	Lys	Lys	Met	Glu	Asn	Glu	Ser	Ala	Thr
				455					460					465
Glu	Gly	Glu	Asp	Ser	Ala	Met	Thr	Asp	Met	Pro	Pro	Thr	Glu	Glu
				470					475					480
Val	Thr	Asp	Ile	Val	Glu	Met	Arg	Glu	Glu	Asn	Glu			
				485					490					

<210> 8  
 <211> 535  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> 33, 66, 96, 387  
 <223> unknown base

<400> 8  
 cctgacagaa gtgccccgga gctgggggag atncaacatt aagaagatgc 50  
 tgagcttctg gtgccntttg gctctaattc tggccacaca gagaancagt 100  
 cggcctattg tcaacctctt tgtttcccg gaccttggtg gcagttctgc 150  
 agccacagag gcagtggcga ttttgacagc cacataccct gtgggtcaca 200  
 tgccatacgg ctggttgacg gaaatccgtg ctgtgtatcc tgctttcgac 250  
 aagaataacc ccagcaaca actggtgagc acgagcaaca cagtcacggc 300  
 ggcccacatc aagaagttca ccttcgtctg catggctctg tcaactcacgc 350  
 tctgtttcgt gatgttttgg acaccaacg tgtctgngaa aatcttgata 400  
 gacatcatcg gagtggactt tgcccttgca gaactctgtg ttgttccttt 450



gcggatcttc tccttcttcc cagttccagt cacagtgagg gcgcatctca 500

ccgggtgggt gatgacactg aagaaaacct tcgtc 535

<210> 9

<211> 434

<212> DNA

<213> Homo sapiens

<220>

<221> unsure

<222> 32, 54, 80, 111, 117, 122, 139, 193, 205, 221, 226, 228, 273,  
293, 296, 305, 336, 358, 361

<223> unknown base

<400> 9

tgacggaatc ccgggctggg tatcctggtt tngacaagat aaacccccag 50

caanaaattg gggagcaggg caaaacagtn acgggcagcc cacatcaaga 100

agttcacctt ngtttgnatg gntctgtcaa ctcacgctnt gtttcgtgat 150

gttttgagaca cccaaagtgt ttgagaaaat tttgatagac atnatcggag 200

tggantttgc ctttgcagaa ntttgngntg ttcctttgcg gattttctcc 250

tttttcccag ttccagtcac agngagggcg catctcaccg ggnggntgat 300

gacantgaag aaaacctttg tccttgcccc cagctntttg gtgcggatca 350

ttgtcctnat ngccagcctt gtggctctac cctacctggg ggtgcacggt 400

gcgacctgg gcgtgggttc cctcctggcg ggca 434

<210> 10

<211> 154

<212> DNA

<213> Homo sapiens

<220>

<221> unsure

<222> 33, 49, 68, 83, 90, 98, 119

<223> unknown base

<400> 10

tattcccagt tccggtcacg gggagggcgc atntcaccgg gtggctgang 50

acactgaaga aaaccttngt ccttgcccc agntttgtgn tgcgatnat 100

cgctctcatc gccagcctng tggtcctacc ctacctgggg gtgcacggtg 150

agac 154

<210> 11

<211> 24

<212> DNA

<213> Artificial Sequence



<220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 11  
 ctgatccggt tcttggtgcc cctg 24  
  
 <210> 12  
 <211> 18  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 12  
 gctctgtcac tcacgctc 18  
  
 <210> 13  
 <211> 18  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 13  
 tcattctcttc cctctccc 18  
  
 <210> 14  
 <211> 18  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 14  
 ccttcgcgcca cggagttc 18  
  
 <210> 15  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 15  
 ggcaaagtcc actccgatga tgtc 24  
  
 <210> 16  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe















	350		355		360
Leu Asp Ala Thr	Gln Gln Gln Gln Gln	Gln Val Ala Ala Cys	Glu		
	365		370		375
Gly Arg Ala Phe	Asp Asn Glu Gln Asp	Gly Val Thr Tyr Ser	Tyr		
	380		385		390
Ser Phe Phe His	Phe Cys Leu Val Leu	Ala Ser Leu His Val	Met		
	395		400		405
Met Thr Leu Thr	Asn Trp Tyr Lys Pro	Gly Glu Thr Arg Lys	Met		
	410		415		420
Ile Ser Thr Trp	Thr Ala Val Trp Val	Lys Ile Cys Ala Ser	Trp		
	425		430		435
Ala Gly Leu Leu	Leu Tyr Leu Trp Thr	Leu Val Ala Pro Leu	Leu		
	440		445		450
Leu Arg Asn Arg	Asp Phe Ser				
	455				

<210> 20  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 20  
 gccgcctcat cttcacgttc ttcc 24

<210> 21  
 <211> 20  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 21  
 tcatccagct ggtgctgctc 20

<210> 22  
 <211> 20  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 22  
 cttcttccac ttctgcctgg 20

<210> 23  
 <211> 18















ctattacccg gaatctggat gggaccgctc cgggagctgt ttggcaaaga 100  
 tgaacagcag agaatttcaa aggaccttgc taatatctgt aagacggcag 150  
 ctacagcagg catcattggc tgggtgtatg ggggaatacc agcttttatt 200  
 catgctaaac aacaatacat tgagcagagc caggcagaaa tttatcataa 250  
 ccggtttgat gctgtgcaat ctgcacatcg tgctgccaca cgaggcttca 300  
 ttcgttcattg gctggcgccg aacc 324

<210> 30  
 <211> 377  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> 262, 330, 371  
 <223> unknown base

<400> 30  
 tcaagtttgt ccgtaggtcg agagaaggcc atggaggtgc cgccaccggc 50  
 accgcggagc ttttttctgt agagcattgt gcctatttcc ccgagttttt 100  
 gctgccgaag ctgtgactgc cgattcggaa gtccttgagg agcgtcagaa 150  
 gcggcttccc tacgtcccag agccctatta cccggaattt ggatgggacc 200  
 gcctccggga gctgtttggc aaagatgaac agcagagaat ttcaaaggac 250  
 cttgctgata tntgtaagac ggcagctaca gcaggcatca ttggctgggt 300  
 gtatggggga ataccagctt ttattcatgn taaacaacaa tacattgagc 350  
 agagccaggc agaaatttat nataacc 377

<210> 31  
 <211> 20  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 31  
 tcgtacagtt acgctctccc 20

<210> 32  
 <211> 20  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe



<400> 32  
cttgaggagc gtcagaagcg 20

<210> 33  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 33  
ataacgaatg aagcctcgtg 20

<210> 34  
<211> 40  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 34  
gctaatatct gtaagacggc agctacagca ggcatcattg 40

<210> 35  
<211> 1819  
<212> DNA  
<213> Homo sapiens

<400> 35  
gagccgccgc cgcgcgcgcg ccgcgccactg cagccccagg ccccgggccc 50  
ccaccacagt ctgcgttgct gccccgcctg ggccaggccc caaaggcaag 100  
gacaaagcag ctgtcaggga acctccgccg gagtccaatt tacgtgcagc 150  
tgccggcaac cacagggttc aagatggttt gcgggggctt cgcgtgttcc 200  
aagaactgcc tgtgcgccct caacctgctt tacaccttgg ttagtctgct 250  
gctaattgga attgctgcgt ggggcattgg cttcgggctg atttccagtc 300  
tccgagtggc cggcgtggctc attgcagtgg gcatcttctt gttcctgatt 350  
gcttttagtgg gtctgattgg agctgtaaaa catcatcagg tgttgctatt 400  
tttttatatg attattctgt tacttgtatt tattgttcag ttttctgtat 450  
cttgcgcttg tttagccctg aaccaggagc aacagggtca gcttctggag 500  
gttggttgga acaatacggc aagtgcctga aatgacatcc agagaaatct 550  
aaactgctgt gggttccgaa gtgttaacct aaatgacacc tgtctggcta 600  
gctgtgttaa aagtgaccac tcgtgctcgc catgtgctcc aatcatagga 650  
gaatatgctg gagagggttt gagatttggt ggtggcattg gcctgttctt 700







Ala	Ala	Trp	Gly	Ile	Gly	Phe	Gly	Leu	Ile	Ser	Ser	Leu	Arg	Val	
				35					40					45	
Val	Gly	Val	Val	Ile	Ala	Val	Gly	Ile	Phe	Leu	Phe	Leu	Ile	Ala	
				50					55					60	
Leu	Val	Gly	Leu	Ile	Gly	Ala	Val	Lys	His	His	Gln	Val	Leu	Leu	
				65					70					75	
Phe	Phe	Tyr	Met	Ile	Ile	Leu	Leu	Leu	Val	Phe	Ile	Val	Gln	Phe	
				80					85					90	
Ser	Val	Ser	Cys	Ala	Cys	Leu	Ala	Leu	Asn	Gln	Glu	Gln	Gln	Gly	
				95					100					105	
Gln	Leu	Leu	Glu	Val	Gly	Trp	Asn	Asn	Thr	Ala	Ser	Ala	Arg	Asn	
				110					115					120	
Asp	Ile	Gln	Arg	Asn	Leu	Asn	Cys	Cys	Gly	Phe	Arg	Ser	Val	Asn	
				125					130					135	
Pro	Asn	Asp	Thr	Cys	Leu	Ala	Ser	Cys	Val	Lys	Ser	Asp	His	Ser	
				140					145					150	
Cys	Ser	Pro	Cys	Ala	Pro	Ile	Ile	Gly	Glu	Tyr	Ala	Gly	Glu	Val	
				155					160					165	
Leu	Arg	Phe	Val	Gly	Gly	Ile	Gly	Leu	Phe	Phe	Ser	Phe	Thr	Glu	
				170					175					180	
Ile	Leu	Gly	Val	Trp	Leu	Thr	Tyr	Arg	Tyr	Arg	Asn	Gln	Lys	Asp	
				185					190					195	
Pro	Arg	Ala	Asn	Pro	Ser	Ala	Phe	Leu							
				200											

<210> 37

<211> 390

<212> DNA

<213> Homo sapiens

<220>

<221> unsure

<222> 20, 35, 61, 83, 106, 130, 133, 187, 232, 260, 336

<223> unknown base

<400> 37

tgattggagc tgtaaaaaan tcttcaggtg ttgtnatttt tttatatgat 50

tattctgtaa nttgtattta ttgttcagtt ttntgtatct tgcgcttggt 100

tagccntgaa ccaggagcaa cagggtcagn ttntggaggt tggttggaac 150

aatacggcaa gtgctcgaaa tgacatccag agaaatntaa actgctgtgg 200

gttccgaagt gttaacccaa atgacacctg tntggctagc tgtgttaaaa 250

gtgaccactn gtgctcgcca tgtgctccaa tcataggaga atatgctgga 300



gagggttttga gatttggttg tggcattggc ctgttnttca gttttacaga 350  
gatcctgggt gtttggtga cctacagata caggaaccag 390

<210> 38  
<211> 566  
<212> DNA  
<213> Homo sapiens

<220>  
<221> unsure  
<222> 27  
<223> unknown base

<400> 38  
aatcccaaat tccccaattt ttttggnctt tttagggaaa gatgtgttgt 50  
ggtaaaaagt gttagtataa aaatgataat ttacttgtag tcttttatga 100  
ttacaccaat gtattctaga atagttatgt cttaggaaat tgtggtttaa 150  
tttttgactt ttacaggtaa gtgcaaagga gaagtggttt catgaaatgt 200  
tctaattgat aataacattt accttcagcc tccatcaga atggaacgag 250  
ttttgagtaa tccaggaagt atatctatat gatcttgata ttgttttata 300  
taatttgaag tctaaaagac tgcattttta aacaagttag tattaatgcg 350  
ttggcccacg tagcaaaaag atatttgatt atcttaaaaa ttgttaaata 400  
ccgttttcat gaaagttctc agtattgtaa cagcaacttg tcaaacctaa 450  
gcatatttga atatgatctc ccataatttg aaattgaaat cgtatttgtgt 500  
ggaggaaatg gcaatcttat gtgtgctgaa ggacacagta agagcaccaa 550  
gttgtgcccc acttgc 566

<210> 39  
<211> 264  
<212> DNA  
<213> Homo sapiens

<220>  
<221> unsure  
<222> 84-85, 206  
<223> unknown base

<400> 39  
atgattattc tgttacttgt atttattgtt cagttttatg gtatcttgcg 50  
cttgtttagc ccctgaaacc aggagcaaca gggnnacagct tcctggagggt 100  
tggttggcaa caatcacggc caagtgactc cgcaaatgac atcccagaga 150  
aatcctaaac tgctgtgggt tccgaagtgt taaccctaat gacacctgtc 200



tggtngctg tggtaaaagt gaccactcgt gctcgccatg tgctccaatc 250

ataggagaat atgc 264

<210> 40

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 40

accacgtct gcgttgctgc c 21

<210> 41

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 41

gagaatatgc tggagagg 18

<210> 42

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 42

aggaatgcac taggattcgc gcgg 24

<210> 43

<211> 45

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 43

ggcccaaaag gcaaggacaa agcagctgtc agggaacctc cgccg 45

<210> 44

<211> 2061

<212> DNA

<213> Homo sapiens

<400> 44

cagtcacat gaagctgggc tgtgtcctca tggcctgggc cctctacctt 50

tcccttggtg tgctctgggt ggccagatg ctactggctg ccagttttga 100







ggagtagccc cacaacgaaa aataatctgg cccaaaatgt cagttgtact 1600  
 gagtttgaga aaccccagcc taatgaaacc ctaggtgttg ggctctggaa 1650  
 tgggactttg tcccttctaa ttattatctc tttccagcct cattcagcta 1700  
 ttcttactga cataaccagtc tttagctggg gctatgggtct gttctttagt 1750  
 tctagtttgt atccccctcaa aagccattat gttgaaatcc taatcccaa 1800  
 ggtgatggca ttaagaagtg ggcctttggg aagtgattag atcaggagtg 1850  
 cagagccctc atgattagga ttagtgccct tatttaaaaa ggccccagag 1900  
 agctaactca cccttcacc atatgaggac gtggcaagaa gatgacatgt 1950  
 atgagaacca aaaaacagct gtcgccaac accgactctg tcgttgccct 2000  
 gatcttgaac ttccagcctc cagaactatg agaaataaaa ttctggttgt 2050  
 ttgtagccta a 2061

<210> 45  
 <211> 359  
 <212> PRT  
 <213> Homo sapiens

<400> 45  
 Met Lys Leu Gly Cys Val Leu Met Ala Trp Ala Leu Tyr Leu Ser  
 1 5 10 15  
 Leu Gly Val Leu Trp Val Ala Gln Met Leu Leu Ala Ala Ser Phe  
 20 25 30  
 Glu Thr Leu Gln Cys Glu Gly Pro Val Cys Thr Glu Glu Ser Ser  
 35 40 45  
 Cys His Thr Glu Asp Asp Leu Thr Asp Ala Arg Glu Ala Gly Phe  
 50 55 60  
 Gln Val Lys Ala Tyr Thr Phe Ser Glu Pro Phe His Leu Ile Val  
 65 70 75  
 Ser Tyr Asp Trp Leu Ile Leu Gln Gly Pro Ala Lys Pro Val Phe  
 80 85 90  
 Glu Gly Asp Leu Leu Val Leu Arg Cys Gln Ala Trp Gln Asp Trp  
 95 100 105  
 Pro Leu Thr Gln Val Thr Phe Tyr Arg Asp Gly Ser Ala Leu Gly  
 110 115 120  
 Pro Pro Gly Pro Asn Arg Glu Phe Ser Ile Thr Val Val Gln Lys  
 125 130 135  
 Ala Asp Ser Gly His Tyr His Cys Ser Gly Ile Phe Gln Ser Pro  
 140 145 150



Gly	Pro	Gly	Ile	Pro	Glu	Thr	Ala	Ser	Val	Val	Ala	Ile	Thr	Val	155	160	165
Gln	Glu	Leu	Phe	Pro	Ala	Pro	Ile	Leu	Arg	Ala	Val	Pro	Ser	Ala	170	175	180
Glu	Pro	Gln	Ala	Gly	Ser	Pro	Met	Thr	Leu	Ser	Cys	Gln	Thr	Lys	185	190	195
Leu	Pro	Leu	Gln	Arg	Ser	Ala	Ala	Arg	Leu	Leu	Phe	Ser	Phe	Tyr	200	205	210
Lys	Asp	Gly	Arg	Ile	Val	Gln	Ser	Arg	Gly	Leu	Ser	Ser	Glu	Phe	215	220	225
Gln	Ile	Pro	Thr	Ala	Ser	Glu	Asp	His	Ser	Gly	Ser	Tyr	Trp	Cys	230	235	240
Glu	Ala	Ala	Thr	Glu	Asp	Asn	Gln	Val	Trp	Lys	Gln	Ser	Pro	Gln	245	250	255
Leu	Glu	Ile	Arg	Val	Gln	Gly	Ala	Ser	Ser	Ser	Ala	Ala	Pro	Pro	260	265	270
Thr	Leu	Asn	Pro	Ala	Pro	Gln	Lys	Ser	Ala	Ala	Pro	Gly	Thr	Ala	275	280	285
Pro	Glu	Glu	Ala	Pro	Gly	Pro	Leu	Pro	Pro	Pro	Pro	Thr	Pro	Ser	290	295	300
Ser	Glu	Asp	Pro	Gly	Phe	Ser	Ser	Pro	Leu	Gly	Met	Pro	Asp	Pro	305	310	315
His	Leu	Tyr	His	Gln	Met	Gly	Leu	Leu	Leu	Lys	His	Met	Gln	Asp	320	325	330
Val	Arg	Val	Leu	Leu	Gly	His	Leu	Leu	Met	Glu	Leu	Arg	Glu	Leu	335	340	345
Ser	Gly	His	Gln	Lys	Pro	Gly	Thr	Thr	Lys	Ala	Thr	Ala	Glu		350	355	

<210> 46

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 46

tgggctgtgt cctcatgg 18

<210> 47

<211> 18

<212> DNA

<213> Artificial Sequence



<220>  
<223> Synthetic oligonucleotide probe

<400> 47  
tttccagcgc caattctc 18

<210> 48  
<211> 23  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 48  
agttcttgga ctgtgatagc cac 23

<210> 49  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 49  
aaacttggtt gtcctcagtg gctg 24

<210> 50  
<211> 45  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 50  
gtgagggacc tgtctgcact gaggagagca gctgccacac ggagg 45

<210> 51  
<211> 2181  
<212> DNA  
<213> Homo sapiens

<400> 51  
cccacgcgtc cgcccacgcg tccgcccacg ggtccgcca cgcgccggg 50  
ccaccagaag tttgagcctc tttggtagca ggaggctgga agaaaggaca 100  
gaagtagctc tggctgtgat ggggatctta ctgggcctgc tactcctggg 150  
gcacctaaca gtggacactt atggccgtcc catcctggaa gtgccagaga 200  
gtgtaacagg accttggaag ggggatgtga atcttccctg cacctatgac 250  
cccctgcaag gctacacca agtcttggtg aagtggctgg tacaacgtgg 300  
ctcagaccct gtcaccatct ttctacgtga ctcttctgga gaccatatcc 350







ctttgccctg gaatttgcca gatgcatctc aagtaagcca gctgctggat 1850  
 ttggctctgg gcccttctag tatctctgcc gggggcttct ggtactcctc 1900  
 tctaaatacc agaggggaaga tgcccatagc actaggactt ggtcatcatg 1950  
 cctacagaca ctattcaact ttggcatctt gccaccagaa gacccgaggg 2000  
 aggctcagct ctgccagctc agaggaccag ctatatccag gatcatttct 2050  
 ctttcttcag ggccagacag cttttaattg aaattgttat ttcacaggcc 2100  
 agggttcagt tctgctcctc cactataagt ctaatgttct gactctctcc 2150  
 tggtgctcaa taaatatcta atcataacag c 2181

<210> 52  
 <211> 321  
 <212> PRT  
 <213> Homo sapiens

<400> 52

Met Gly Ile Leu Leu Gly Leu Leu Leu Gly His Leu Thr Val  
 1 5 10 15  
 Asp Thr Tyr Gly Arg Pro Ile Leu Glu Val Pro Glu Ser Val Thr  
 20 25 30  
 Gly Pro Trp Lys Gly Asp Val Asn Leu Pro Cys Thr Tyr Asp Pro  
 35 40 45  
 Leu Gln Gly Tyr Thr Gln Val Leu Val Lys Trp Leu Val Gln Arg  
 50 55 60  
 Gly Ser Asp Pro Val Thr Ile Phe Leu Arg Asp Ser Ser Gly Asp  
 65 70 75  
 His Ile Gln Gln Ala Lys Tyr Gln Gly Arg Leu His Val Ser His  
 80 85 90  
 Lys Val Pro Gly Asp Val Ser Leu Gln Leu Ser Thr Leu Glu Met  
 95 100 105  
 Asp Asp Arg Ser His Tyr Thr Cys Glu Val Thr Trp Gln Thr Pro  
 110 115 120  
 Asp Gly Asn Gln Val Val Arg Asp Lys Ile Thr Glu Leu Arg Val  
 125 130 135  
 Gln Lys Leu Ser Val Ser Lys Pro Thr Val Thr Thr Gly Ser Gly  
 140 145 150  
 Tyr Gly Phe Thr Val Pro Gln Gly Met Arg Ile Ser Leu Gln Cys  
 155 160 165  
 Gln Ala Arg Gly Ser Pro Pro Ile Ser Tyr Ile Trp Tyr Lys Gln  
 170 175 180



Gln	Thr	Asn	Asn	Gln	Glu	Pro	Ile	Lys	Val	Ala	Thr	Leu	Ser	Thr	
				185					190					195	
Leu	Leu	Phe	Lys	Pro	Ala	Val	Ile	Ala	Asp	Ser	Gly	Ser	Tyr	Phe	
				200					205					210	
Cys	Thr	Ala	Lys	Gly	Gln	Val	Gly	Ser	Glu	Gln	His	Ser	Asp	Ile	
				215					220					225	
Val	Lys	Phe	Val	Val	Lys	Asp	Ser	Ser	Lys	Leu	Leu	Lys	Thr	Lys	
				230					235					240	
Thr	Glu	Ala	Pro	Thr	Thr	Met	Thr	Tyr	Pro	Leu	Lys	Ala	Thr	Ser	
				245					250					255	
Thr	Val	Lys	Gln	Ser	Trp	Asp	Trp	Thr	Thr	Asp	Met	Asp	Gly	Tyr	
				260					265					270	
Leu	Gly	Glu	Thr	Ser	Ala	Gly	Pro	Gly	Lys	Ser	Leu	Pro	Val	Phe	
				275					280					285	
Ala	Ile	Ile	Leu	Ile	Ile	Ser	Leu	Cys	Cys	Met	Val	Val	Phe	Thr	
				290					295					300	
Met	Ala	Tyr	Ile	Met	Leu	Cys	Arg	Lys	Thr	Ser	Gln	Gln	Glu	His	
				305					310					315	
Val	Tyr	Glu	Ala	Ala	Arg										
				320											

<210> 53

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 53

tatccctcca attgagcacc ctgg 24

<210> 54

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 54

gtcgggaagac atcccaacaa g 21

<210> 55

<211> 24

<212> DNA

<213> Artificial Sequence

<220>



<223> Synthetic oligonucleotide probe

<400> 55

cttcacaatg tcgctgtgct gctc 24

<210> 56

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 56

agccaaatcc agcagctggc ttac 24

<210> 57

<211> 50

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 57

tggatgaccg gagccactac acgtgtgaag tcacctggca gactcctgat 50

<210> 58

<211> 2458

<212> DNA

<213> Homo sapiens

<400> 58

gcgccgggag cccatctgcc ccaggggca cggggcgcg ggccggctcc 50

cgcccggcac atggctgcag ccacctcgcg cgcaccccga ggccgcccgc 100

ccagctcgcc cgaggtccgt cggaggcgcc cggccgcccc ggagccaagc 150

agcaactgag cggggaagcg cccgcgtccg gggatcggga tgtccctcct 200

ccttctcctc ttgctagttt cctactatgt tggaaccttg gggactcaca 250

ctgagatcaa gagagtggca gaggaaaagg tcactttgcc ctgccaccat 300

caactggggc ttccagaaaa agacactctg gatattgaat ggctgctcac 350

cgataatgaa gggaaccaa aagtggatgat cacttactcc agtcgtcatg 400

tctacaataa cttgactgag gaacagaagg gccgagtggc ctttgcttcc 450

aatttcctgg caggagatgc ctcccttcag attgaacctc tgaagcccag 500

tgatgagggc cggtagacct gtaagggttaa gaattcaggg cgctacgtgt 550

ggagccatgt catcttaaaa gtcttagtga gaccatccaa gcccaagtgt 600

gagttggaag gagagctgac agaaggaagt gacctgactt tgcagtgtga 650



gtcatcctct ggcacagagc ccattgtgta ttactggcag cgaatccgag 700  
 agaaagaggg agaggatgaa cgtctgcctc ccaaacttag gattgactac 750  
 aaccaccctg gacgagttct gctgcagaat cttaccatgt cctactctgg 800  
 actgtaccag tgcacagcag gcaacgaagc tgggaaggaa agctgtgtgg 850  
 tgcgagtaac tgtacagtat gtacaaagca tcggcatggg tgcaggagca 900  
 gtgacaggca tagtggctgg agccctgctg attttctct tgggtgtggct 950  
 gctaattccg aggaaagaca aagaaagata tgaggaagaa gagagaccta 1000  
 atgaaattcg agaagatgct gaagctccaa aagcccgctt tgtgaaaccc 1050  
 agctcctctt cctcaggctc tcggagctca cgtctgtggt cttcctccac 1100  
 tcgctccaca gcaaatagtg cctcacgcag ccagcggaca ctgtcaactg 1150  
 acgcagcacc ccagccaggg ctggccaccc aggcatacag cctagtgggg 1200  
 ccagaggtga gaggttctga accaaagaaa gtccaccatg ctaatctgac 1250  
 caaagcagaa accacaccca gcatgatccc cagccagagc agagccttcc 1300  
 aaacggtctg aattacaatg gacttgactc ccacgctttc ctaggagtca 1350  
 gggctcttgg actcttctcg tcattggagc tcaagtcacc agccacacaa 1400  
 ccagatgaga ggtcatctaa gtagcagtga gcattgcacg gaacagattc 1450  
 agatgagcat tttccttata caataccaaa caagcaaaag gatgtaagct 1500  
 gattcatctg taaaaaggca tcttattgtg ccttttagacc agagtaaggg 1550  
 aaagcaggag tccaaatcta tttgttgacc aggacctgtg gtgagaaggt 1600  
 tggggaaagg tgaggtgaat atacctaaaa cttttaatgt gggatatttt 1650  
 gtatcagtg c tttgattcac aattttcaag aggaaatggg atgctgtttg 1700  
 taaattttct atgcatttct gcaaacttat tggattatta gttattcaga 1750  
 cagtcaagca gaaccacacag ccttattaca cctgtctaca ccatgtactg 1800  
 agctaaccac ttctaagaaa ctccaaaaaa ggaaacatgt gtcttctatt 1850  
 ctgacttaac ttcatttgtc ataagggttg gatattaatt tcaaggggag 1900  
 ttgaaatagt gggagatgga gaagagtga tgagtttctc ccactctata 1950  
 ctaatctcac tatttgtatt gagcccaaaa taactatgaa aggagacaaa 2000  
 aatttgtgac aaaggattgt gaagagcttt ccatcttcat gatgttatga 2050  
 ggattgttga caaacattag aaatatataa tggagcaatt gtggatttcc 2100



cctcaaata gatgcctcta aggactttcc tgctagatat ttctggaagg 2150  
 agaaaataca acatgtcatt tatcaacgtc cttagaaaga attcttctag 2200  
 agaaaaaggg atctaggaat gctgaaagat tacccaacat accattatag 2250  
 tctcttcttt ctgagaaaat gtgaaaccag aattgcaaga ctgggtggac 2300  
 tagaaagggg gattagatca gttttctctt aatatgtcaa ggaaggtagc 2350  
 cgggcatggg gccaggcacc tgtaggaaaa tccagcaggt ggaggttgca 2400  
 gtgagccgag attatgcat tgactccag cctgggtgac agagcgggac 2450  
 tccgtctc 2458

<210> 59  
 <211> 373  
 <212> PRT  
 <213> Homo sapiens

<400> 59

Met	Ser	Leu	Leu	Leu	Leu	Leu	Leu	Val	Ser	Tyr	Tyr	Val	Gly	
1				5				10					15	
Thr	Leu	Gly	Thr	His	Thr	Glu	Ile	Lys	Arg	Val	Ala	Glu	Glu	Lys
				20				25					30	
Val	Thr	Leu	Pro	Cys	His	His	Gln	Leu	Gly	Leu	Pro	Glu	Lys	Asp
				35				40					45	
Thr	Leu	Asp	Ile	Glu	Trp	Leu	Leu	Thr	Asp	Asn	Glu	Gly	Asn	Gln
				50				55					60	
Lys	Val	Val	Ile	Thr	Tyr	Ser	Ser	Arg	His	Val	Tyr	Asn	Asn	Leu
				65				70					75	
Thr	Glu	Glu	Gln	Lys	Gly	Arg	Val	Ala	Phe	Ala	Ser	Asn	Phe	Leu
				80				85					90	
Ala	Gly	Asp	Ala	Ser	Leu	Gln	Ile	Glu	Pro	Leu	Lys	Pro	Ser	Asp
				95				100					105	
Glu	Gly	Arg	Tyr	Thr	Cys	Lys	Val	Lys	Asn	Ser	Gly	Arg	Tyr	Val
				110				115					120	
Trp	Ser	His	Val	Ile	Leu	Lys	Val	Leu	Val	Arg	Pro	Ser	Lys	Pro
				125				130					135	
Lys	Cys	Glu	Leu	Glu	Gly	Glu	Leu	Thr	Glu	Gly	Ser	Asp	Leu	Thr
				140				145					150	
Leu	Gln	Cys	Glu	Ser	Ser	Ser	Gly	Thr	Glu	Pro	Ile	Val	Tyr	Tyr
				155				160					165	
Trp	Gln	Arg	Ile	Arg	Glu	Lys	Glu	Gly	Glu	Asp	Glu	Arg	Leu	Pro
				170				175					180	



Pro	Lys	Ser	Arg	Ile	Asp	Tyr	Asn	His	Pro	Gly	Arg	Val	Leu	Leu	185	190	195
Gln	Asn	Leu	Thr	Met	Ser	Tyr	Ser	Gly	Leu	Tyr	Gln	Cys	Thr	Ala	200	205	210
Gly	Asn	Glu	Ala	Gly	Lys	Glu	Ser	Cys	Val	Val	Arg	Val	Thr	Val	215	220	225
Gln	Tyr	Val	Gln	Ser	Ile	Gly	Met	Val	Ala	Gly	Ala	Val	Thr	Gly	230	235	240
Ile	Val	Ala	Gly	Ala	Leu	Leu	Ile	Phe	Leu	Leu	Val	Trp	Leu	Leu	245	250	255
Ile	Arg	Arg	Lys	Asp	Lys	Glu	Arg	Tyr	Glu	Glu	Glu	Glu	Arg	Pro	260	265	270
Asn	Glu	Ile	Arg	Glu	Asp	Ala	Glu	Ala	Pro	Lys	Ala	Arg	Leu	Val	275	280	285
Lys	Pro	Ser	Ser	Ser	Ser	Ser	Gly	Ser	Arg	Ser	Ser	Arg	Ser	Gly	290	295	300
Ser	Ser	Ser	Thr	Arg	Ser	Thr	Ala	Asn	Ser	Ala	Ser	Arg	Ser	Gln	305	310	315
Arg	Thr	Leu	Ser	Thr	Asp	Ala	Ala	Pro	Gln	Pro	Gly	Leu	Ala	Thr	320	325	330
Gln	Ala	Tyr	Ser	Leu	Val	Gly	Pro	Glu	Val	Arg	Gly	Ser	Glu	Pro	335	340	345
Lys	Lys	Val	His	His	Ala	Asn	Leu	Thr	Lys	Ala	Glu	Thr	Thr	Pro	350	355	360
Ser	Met	Ile	Pro	Ser	Gln	Ser	Arg	Ala	Phe	Gln	Thr	Val			365	370	

<210> 60

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 60

ccagtgcaca gcaggcaacg aagc 24

<210> 61

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe



<400> 61  
actaggctgt atgcctgggt ggc 24

<210> 62

<211> 43

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 62

gtatgtacaa agcatcggca tggttgcagg agcagtgaca ggc 43

<210> 63

<211> 3534

<212> DNA

<213> Homo sapiens

<400> 63

gtcgttcctt tgctctctcg cgcccagtcc tcctccctgg ttctcctcag 50

ccgctgtcgg aggagagcac ccggagacgc gggctgcagt cgcggcggt 100

tctccccgcc tgggcggcct cgccgctggg caggtgctga gcgccccag 150

agcctccctt gccgcctccc tcctctgccc ggccgcagca gtgcacatgg 200

ggtgttgagg gtagatgggc tcccggcccg ggaggcggcg gtggatgcgg 250

cgctgggcag aagcagccgc cgattccagc tgccccgcgc gcccggggcg 300

cccctgcgag tcccgggttc agccatgggg acctctccga gcagcagcac 350

cgccctcgcc tcctgcagcc gcatcgcccg ccgagccaca gccacgatga 400

tcgcgggctc ctttctcctg cttggattcc ttagcaccac cacagctcag 450

ccagaacaga aggctcga tctcattggc acataccgcc atgttgaccg 500

tgccaccggc caggtgctaa cctgtgacaa gtgtccagca ggaacctatg 550

tctctgagca ttgtaccaac acaagcctgc gcgtctgcag cagttgccct 600

gtggggacct ttaccaggca tgagaatggc atagagaaat gccatgactg 650

tagtcagcca tgcccatggc caatgattga gaaattacct tgtgctgcct 700

tgactgaccg agaatgcact tgcccacctg gcatgttcca gtctaacgct 750

acctgtgccc ccatacggg gtgtcctgtg gggtgggggtg tgcggaagaa 800

agggacagag actgaggatg tgcggtgtaa gcagtgtgct cgggggtacct 850

tctcagatgt gccttctagt gtgatgaaat gcaaagcata cacagactgt 900

ctgagtcaga acctggtggt gatcaagccg gggaccaagg agacagacaa 950



cgtctgtggc acactcccg tcttctccag ctccacctca ccttcccctg 1000  
 gcacagccat ctttccacgc cctgagcaca tggaaaccca tgaagtcctt 1050  
 tcctccactt atgttcccaa aggcataaac tcaacagaat ccaactcttc 1100  
 tgctctgtt agaccaaagg tactgagtag catccaggaa gggacagtcc 1150  
 ctgacaacac aagctcagca agggggaagg aagacgtgaa caagaccctc 1200  
 ccaaaccctt aggtagtcaa ccaccagcaa ggccccacc acagacacat 1250  
 cctgaagctg ctgccgtcca tggaggccac tgggggagag aagtccagca 1300  
 cgcccatcaa gggcccaag aggggacatc ctagacagaa cctacacaag 1350  
 ctttttgaca tcaatgagca ttgcccctgg atgattgtgc ttttctgct 1400  
 gctggtgctt gtggtgattg tgggtgtcag tatccgaaa agctcgagga 1450  
 ctctgaaaaa ggggccccgg caggatccca gtgccattgt ggaaaaggca 1500  
 gggctgaaga aatccatgac tccaaccag aaccgggaga aatggatcta 1550  
 ctactgcaat ggccatggta tcgatatcct gaagcttgta gcagcccaag 1600  
 tgggaagcca gtggaagat atctatcagt ttctttgcaa tgccagttag 1650  
 agggaggttg ctgctttctc caatgggtac acagccgacc acgagcgggc 1700  
 ctacgcagct ctgcagcact ggaccatccg gggccccgag gccagcctcg 1750  
 cccagctaata tagcgccctg cgccagcacc ggagaaacga tgttgtggag 1800  
 aagattcgtg ggctgatgga agacaccacc cagctggaaa ctgacaaact 1850  
 agctctcccg atgagcccca gccgcttag cccgagcccc atccccagcc 1900  
 ccaacgcgaa acttgagaat tccgtctcc tgacggtgga gccttcccca 1950  
 caggacaaga acaagggtt ctctgtggat gagtcggagc cccttctccg 2000  
 ctgtgactct acatccagcg gctcctccgc gctgagcagg aacggttcct 2050  
 ttattaccaa agaaaagaag gacacagtgt tgcggcaggt acgcctggac 2100  
 ccctgtgact tgcagcctat ctttgatgac atgctccact ttctaaatcc 2150  
 tgaggagctg cgggtgattg aagagattcc ccaggctgag gacaaactag 2200  
 accggctatt cgaaattatt ggagtcaaga gccaggaagc cagccagacc 2250  
 ctctgggact ctgtttatag ccatcttctt gacctgctgt agaacatagg 2300  
 gatactgcat tctggaaatt actcaattta gtggcagggt ggttttttaa 2350  
 ttttctctg tttctgattt ttgttgtttg ggggtgtgtgt gtgtgtttgt 2400







Leu	Leu	Leu	Gly	Phe 35	Leu	Ser	Thr	Thr	Thr 40	Ala	Gln	Pro	Glu	Gln 45
Lys	Ala	Ser	Asn	Leu 50	Ile	Gly	Thr	Tyr	Arg 55	His	Val	Asp	Arg	Ala 60
Thr	Gly	Gln	Val	Leu 65	Thr	Cys	Asp	Lys	Cys 70	Pro	Ala	Gly	Thr	Tyr 75
Val	Ser	Glu	His	Cys 80	Thr	Asn	Thr	Ser	Leu 85	Arg	Val	Cys	Ser	Ser 90
Cys	Pro	Val	Gly	Thr 95	Phe	Thr	Arg	His	Glu 100	Asn	Gly	Ile	Glu	Lys 105
Cys	His	Asp	Cys	Ser 110	Gln	Pro	Cys	Pro	Trp 115	Pro	Met	Ile	Glu	Lys 120
Leu	Pro	Cys	Ala	Ala 125	Leu	Thr	Asp	Arg	Glu 130	Cys	Thr	Cys	Pro	Pro 135
Gly	Met	Phe	Gln	Ser 140	Asn	Ala	Thr	Cys	Ala 145	Pro	His	Thr	Val	Cys 150
Pro	Val	Gly	Trp	Gly 155	Val	Arg	Lys	Lys	Gly 160	Thr	Glu	Thr	Glu	Asp 165
Val	Arg	Cys	Lys	Gln 170	Cys	Ala	Arg	Gly	Thr 175	Phe	Ser	Asp	Val	Pro 180
Ser	Ser	Val	Met	Lys 185	Cys	Lys	Ala	Tyr	Thr 190	Asp	Cys	Leu	Ser	Gln 195
Asn	Leu	Val	Val	Ile 200	Lys	Pro	Gly	Thr	Lys 205	Glu	Thr	Asp	Asn	Val 210
Cys	Gly	Thr	Leu	Pro 215	Ser	Phe	Ser	Ser	Ser 220	Thr	Ser	Pro	Ser	Pro 225
Gly	Thr	Ala	Ile	Phe 230	Pro	Arg	Pro	Glu	His 235	Met	Glu	Thr	His	Glu 240
Val	Pro	Ser	Ser	Thr 245	Tyr	Val	Pro	Lys	Gly 250	Met	Asn	Ser	Thr	Glu 255
Ser	Asn	Ser	Ser	Ala 260	Ser	Val	Arg	Pro	Lys 265	Val	Leu	Ser	Ser	Ile 270
Gln	Glu	Gly	Thr	Val 275	Pro	Asp	Asn	Thr	Ser 280	Ser	Ala	Arg	Gly	Lys 285
Glu	Asp	Val	Asn	Lys 290	Thr	Leu	Pro	Asn	Leu 295	Gln	Val	Val	Asn	His 300
Gln	Gln	Gly	Pro	His 305	His	Arg	His	Ile	Leu 310	Lys	Leu	Leu	Pro	Ser 315
Met	Glu	Ala	Thr	Gly	Gly	Glu	Lys	Ser	Ser	Thr	Pro	Ile	Lys	Gly



320	325	330
Pro Lys Arg Gly His	Pro Arg Gln Asn Leu His Lys His Phe Asp	
335	340	345
Ile Asn Glu His Leu	Pro Trp Met Ile Val Leu Phe Leu Leu Leu	
350	355	360
Val Leu Val Val Ile	Val Val Cys Ser Ile Arg Lys Ser Ser Arg	
365	370	375
Thr Leu Lys Lys Gly	Pro Arg Gln Asp Pro Ser Ala Ile Val Glu	
380	385	390
Lys Ala Gly Leu Lys	Lys Ser Met Thr Pro Thr Gln Asn Arg Glu	
395	400	405
Lys Trp Ile Tyr Tyr	Cys Asn Gly His Gly Ile Asp Ile Leu Lys	
410	415	420
Leu Val Ala Ala Gln	Val Gly Ser Gln Trp Lys Asp Ile Tyr Gln	
425	430	435
Phe Leu Cys Asn Ala	Ser Glu Arg Glu Val Ala Ala Phe Ser Asn	
440	445	450
Gly Tyr Thr Ala Asp	His Glu Arg Ala Tyr Ala Ala Leu Gln His	
455	460	465
Trp Thr Ile Arg Gly	Pro Glu Ala Ser Leu Ala Gln Leu Ile Ser	
470	475	480
Ala Leu Arg Gln His	Arg Arg Asn Asp Val Val Glu Lys Ile Arg	
485	490	495
Gly Leu Met Glu Asp	Thr Thr Gln Leu Glu Thr Asp Lys Leu Ala	
500	505	510
Leu Pro Met Ser Pro	Ser Pro Leu Ser Pro Ser Pro Ile Pro Ser	
515	520	525
Pro Asn Ala Lys Leu	Glu Asn Ser Ala Leu Leu Thr Val Glu Pro	
530	535	540
Ser Pro Gln Asp Lys	Asn Lys Gly Phe Phe Val Asp Glu Ser Glu	
545	550	555
Pro Leu Leu Arg Cys	Asp Ser Thr Ser Ser Gly Ser Ser Ala Leu	
560	565	570
Ser Arg Asn Gly Ser	Phe Ile Thr Lys Glu Lys Lys Asp Thr Val	
575	580	585
Leu Arg Gln Val Arg	Leu Asp Pro Cys Asp Leu Gln Pro Ile Phe	
590	595	600
Asp Asp Met Leu His	Phe Leu Asn Pro Glu Glu Leu Arg Val Ile	
605	610	615



Glu Glu Ile Pro Gln Ala Glu Asp Lys Leu Asp Arg Leu Phe Glu  
620 625 630

Ile Ile Gly Val Lys Ser Gln Glu Ala Ser Gln Thr Leu Leu Asp  
635 640 645

Ser Val Tyr Ser His Leu Pro Asp Leu Leu  
650 655

<210> 65

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 65

gtagcagtgc acatgggggtg ttgg 24

<210> 66

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 66

accgcacatc ctcagtctct gtcc 24

<210> 67

<211> 50

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 67

acgatgatcg cgggctccct tctcctgctt ggattcctta gcaccaccac 50

<210> 68

<211> 2412

<212> DNA

<213> Homo sapiens

<400> 68

atgggaagcc agtaacactg tggcctacta tctcttccgt ggtgccatct 50

acattttttgg gactcgggaa ttatgagga gaggtggagg cggagccgga 100

tgtcagaggt cctgaaatag tcaccatggg ggaaaatgat ccgcctgctg 150

ttgaagcccc cttctcattc cgatcgcttt ttggccttga tgatttgaaa 200

ataagtcttg ttgcaccaga tgcagatgct gttgctgcac agatcctgtc 250



actgctgcc	ttgaagtttt	ttccaatcat	cgtcattggg	atcattgcat	300
tgatattagc	actggccatt	ggctctgggca	tccacttoga	ctgctcaggg	350
aagtacagat	gtcgctcatc	ctttaagtgt	atcgagctga	tagctcgatg	400
tgacggagtc	tccgattgca	aagacgggga	ggacgagtac	cgctgtgtcc	450
gggtgggtgg	tcagaatgcc	gtgctccagg	tgttcacagc	tgcttcgtgg	500
aagaccatgt	gctccgatga	ctggaagggg	cactacgcaa	atgttgccctg	550
tgccccactg	ggttttccaa	gctatgtgag	ttcagataac	ctcagagtga	600
gctcgctgga	ggggcagttc	cgggaggagt	ttgtgtccat	cgatcacctc	650
ttgccagatg	acaagggtgac	tgcattacac	cactcagtat	atgtgagggg	700
gggatgtgcc	tctggccacg	tggttacctt	gcagtgcaca	gcctgtgggtc	750
atagaagggg	ctacagctca	cgcacgtgg	gtggaaacat	gtccttgctc	800
tccgagtggc	cctggcaggc	cagccttcag	ttccaggggt	accacctgtg	850
cgggggctct	gtcatcacgc	ccctgtggat	catcactgct	gcacactgtg	900
tttatgactt	gtacctcccc	aagtcatgga	ccatccagggt	gggtctagtt	950
tccctgttgg	acaatccagc	cccatcccac	ttggtggaga	agattgtcta	1000
ccacagcaag	tacaagccaa	agaggctggg	caatgacatc	gcccttatga	1050
agctggccgg	gccactcacg	ttcaatgaaa	tgatccagcc	tgtgtgcctg	1100
cccaactctg	aagagaactt	ccccgatgga	aaagtgtgct	ggacgtcagg	1150
atggggggcc	acagaggatg	gaggtgacgc	ctcccctgtc	ctgaaccacg	1200
cggccgtccc	tttgatttcc	aacaagatct	gcaaccacag	ggacgtgtac	1250
ggtggcatca	tctccccctc	catgctctgc	gcgggctacc	tgacgggtgg	1300
cgtggacagc	tgccaggggg	acagcggggg	gcccctgggtg	tgtcaagaga	1350
ggaggctgtg	gaagttagtg	ggagcgacca	gctttggcat	cggctgcgca	1400
gaggtgaaca	agcctggggg	gtacacccgt	gtcacctcct	tcctggactg	1450
gatccacgag	cagatggaga	gagacctaaa	aacctgaaga	ggaagggggc	1500
aagtagccac	ctgagttcct	gaggtgatga	agacagcccg	atcctcccct	1550
ggactcccgt	gtaggaacct	gcacacgagc	agacaccctt	ggagctctga	1600
gttccggcac	cagtagcagg	cccgaagag	gcacccttcc	atctgattcc	1650
agcacaacct	tcaagctgct	ttttgttttt	tgtttttttg	aggtggagtc	1700



tcgctctgtt gccaggtg gagtgcagt gcgaaatccc tgctcactgc 1750  
 agcctccgct tccctgggtc aagcgattct cttgcctcag cttccccagt 1800  
 agctgggacc acaggtgccc gccaccacac ccaactaatt tttgtatttt 1850  
 tagtagagac agggtttcac catgttggcc aggtgtctct caaaccctg 1900  
 acctcaaatg atgtgcctgc ttcagcctcc cacagtgtct ggattacagg 1950  
 catggggcac cagcctagc ctcacgtcc tttctgatct tactaagaa 2000  
 caaaagaagc agcaactgc aaggcgggcc tttccactg gtccatctgg 2050  
 ttttctctcc agggctctgc aaaattcctg acgagataag cagttatgtg 2100  
 acctcacgtg caaagccacc aacagccact cagaaaagac gcaccagccc 2150  
 agaagtgcag aactgcagtc actgcacgtt ttcattctcta gggaccagaa 2200  
 ccaaaccac ctttctact tccaagactt attttcacat gtggggaggt 2250  
 taatctagga atgactcgtt taaggcctat tttcatgatt tctttgtagc 2300  
 atttggtgct tgacgtatta ttgtcctttg attocaaata atatgtttcc 2350  
 ttccctcatt gtctggcgtg tctgcgtgga ctggtgacgt gaatcaaat 2400  
 catccactga aa 2412

<210> 69

<211> 453

<212> PRT

<213> Homo sapiens

<400> 69

Met	Gly	Glu	Asn	Asp	Pro	Pro	Ala	Val	Glu	Ala	Pro	Phe	Ser	Phe
1				5					10					15
Arg	Ser	Leu	Phe	Gly	Leu	Asp	Asp	Leu	Lys	Ile	Ser	Pro	Val	Ala
				20					25					30
Pro	Asp	Ala	Asp	Ala	Val	Ala	Ala	Gln	Ile	Leu	Ser	Leu	Leu	Pro
				35					40					45
Leu	Lys	Phe	Phe	Pro	Ile	Ile	Val	Ile	Gly	Ile	Ile	Ala	Leu	Ile
				50					55					60
Leu	Ala	Leu	Ala	Ile	Gly	Leu	Gly	Ile	His	Phe	Asp	Cys	Ser	Gly
				65					70					75
Lys	Tyr	Arg	Cys	Arg	Ser	Ser	Phe	Lys	Cys	Ile	Glu	Leu	Ile	Ala
				80					85					90
Arg	Cys	Asp	Gly	Val	Ser	Asp	Cys	Lys	Asp	Gly	Glu	Asp	Glu	Tyr
				95					100					105
Arg	Cys	Val	Arg	Val	Gly	Gly	Gln	Asn	Ala	Val	Leu	Gln	Val	Phe



					110					115					120
Thr	Ala	Ala	Ser	Trp	Lys	Thr	Met	Cys	Ser	Asp	Asp	Trp	Lys	Gly	
				125					130					135	
His	Tyr	Ala	Asn	Val	Ala	Cys	Ala	Gln	Leu	Gly	Phe	Pro	Ser	Tyr	
				140					145					150	
Val	Ser	Ser	Asp	Asn	Leu	Arg	Val	Ser	Ser	Leu	Glu	Gly	Gln	Phe	
				155					160					165	
Arg	Glu	Glu	Phe	Val	Ser	Ile	Asp	His	Leu	Leu	Pro	Asp	Asp	Lys	
				170					175					180	
Val	Thr	Ala	Leu	His	His	Ser	Val	Tyr	Val	Arg	Glu	Gly	Cys	Ala	
				185					190					195	
Ser	Gly	His	Val	Val	Thr	Leu	Gln	Cys	Thr	Ala	Cys	Gly	His	Arg	
				200					205					210	
Arg	Gly	Tyr	Ser	Ser	Arg	Ile	Val	Gly	Gly	Asn	Met	Ser	Leu	Leu	
				215					220					225	
Ser	Gln	Trp	Pro	Trp	Gln	Ala	Ser	Leu	Gln	Phe	Gln	Gly	Tyr	His	
				230					235					240	
Leu	Cys	Gly	Gly	Ser	Val	Ile	Thr	Pro	Leu	Trp	Ile	Ile	Thr	Ala	
				245					250					255	
Ala	His	Cys	Val	Tyr	Asp	Leu	Tyr	Leu	Pro	Lys	Ser	Trp	Thr	Ile	
				260					265					270	
Gln	Val	Gly	Leu	Val	Ser	Leu	Leu	Asp	Asn	Pro	Ala	Pro	Ser	His	
				275					280					285	
Leu	Val	Glu	Lys	Ile	Val	Tyr	His	Ser	Lys	Tyr	Lys	Pro	Lys	Arg	
				290					295					300	
Leu	Gly	Asn	Asp	Ile	Ala	Leu	Met	Lys	Leu	Ala	Gly	Pro	Leu	Thr	
				305					310					315	
Phe	Asn	Glu	Met	Ile	Gln	Pro	Val	Cys	Leu	Pro	Asn	Ser	Glu	Glu	
				320					325					330	
Asn	Phe	Pro	Asp	Gly	Lys	Val	Cys	Trp	Thr	Ser	Gly	Trp	Gly	Ala	
				335					340					345	
Thr	Glu	Asp	Gly	Gly	Asp	Ala	Ser	Pro	Val	Leu	Asn	His	Ala	Ala	
				350					355					360	
Val	Pro	Leu	Ile	Ser	Asn	Lys	Ile	Cys	Asn	His	Arg	Asp	Val	Tyr	
				365					370					375	
Gly	Gly	Ile	Ile	Ser	Pro	Ser	Met	Leu	Cys	Ala	Gly	Tyr	Leu	Thr	
				380					385					390	
Gly	Gly	Val	Asp	Ser	Cys	Gln	Gly	Asp	Ser	Gly	Gly	Pro	Leu	Val	
				395					400					405	



Cys	Gln	Glu	Arg	Arg	Leu	Trp	Lys	Leu	Val	Gly	Ala	Thr	Ser	Phe
				410					415					420
Gly	Ile	Gly	Cys	Ala	Glu	Val	Asn	Lys	Pro	Gly	Val	Tyr	Thr	Arg
				425					430					435
Val	Thr	Ser	Phe	Leu	Asp	Trp	Ile	His	Glu	Gln	Met	Glu	Arg	Asp
				440					445					450

Leu Lys Thr

<210> 70  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 70  
 tgacatcgcc cttatgaagc tggc 24

<210> 71  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 71  
 tacacgtccc tgtggttgca gatc 24

<210> 72  
 <211> 50  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 72  
 cgttcaatgc agaaatgata cagcctgtgt gcctgcccac ctctgaagag 50

<210> 73  
 <211> 3305  
 <212> DNA  
 <213> Homo sapiens

<400> 73  
 cccacgcgtc cgtcctagtc cccgggcccac ctcggacagt ttgctcattt 50  
 attgcaacgg tcaaggctgg cttgtgccag aacggcgcg gcgcgcgcac 100  
 gcacgcacac acacgggggg aaactttttt aaaaatgaaa ggctagaaga 150  
 gctcagcggc ggcgcggggc ctgcgcgagg gctccggagc tgactcgccg 200











gagaaagggc ggtgaactct ggctctttgc tgtggacatg cgtgaccagc 3150  
 agtactcagg tttgagggtt tgcagaaagc caggggaaccc acagagtcac 3200  
 caacccttca ttttaacaagt aagaatgtta aaaagtgaaa acaatgtaag 3250  
 agcctaactc catcccccggt ggccattact gcataaaata gagtgcattt 3300  
 gaaat 3305

<210> 74

<211> 735

<212> PRT

<213> Homo sapiens

<400> 74

Met	Ala	Ala	Arg	Pro	Leu	Pro	Val	Ser	Pro	Ala	Arg	Ala	Leu	Leu	1	5	10	15
Leu	Ala	Leu	Ala	Gly	Ala	Leu	Leu	Ala	Pro	Cys	Glu	Ala	Arg	Gly	20	25	30	
Val	Ser	Leu	Trp	Asn	Gln	Gly	Arg	Ala	Asp	Glu	Val	Val	Ser	Ala	35	40	45	
Ser	Val	Arg	Ser	Gly	Asp	Leu	Trp	Ile	Pro	Val	Lys	Ser	Phe	Asp	50	55	60	
Ser	Lys	Asn	His	Pro	Glu	Val	Leu	Asn	Ile	Arg	Leu	Gln	Arg	Glu	65	70	75	
Ser	Lys	Glu	Leu	Ile	Ile	Asn	Leu	Glu	Arg	Asn	Glu	Gly	Leu	Ile	80	85	90	
Ala	Ser	Ser	Phe	Thr	Glu	Thr	His	Tyr	Leu	Gln	Asp	Gly	Thr	Asp	95	100	105	
Val	Ser	Leu	Ala	Arg	Asn	Tyr	Thr	Gly	His	Cys	Tyr	Tyr	His	Gly	110	115	120	
His	Val	Arg	Gly	Tyr	Ser	Asp	Ser	Ala	Val	Ser	Leu	Ser	Thr	Cys	125	130	135	
Ser	Gly	Leu	Arg	Gly	Leu	Ile	Val	Phe	Glu	Asn	Glu	Ser	Tyr	Val	140	145	150	
Leu	Glu	Pro	Met	Lys	Ser	Ala	Thr	Asn	Arg	Tyr	Lys	Leu	Phe	Pro	155	160	165	
Ala	Lys	Lys	Leu	Lys	Ser	Val	Arg	Gly	Ser	Cys	Gly	Ser	His	His	170	175	180	
Asn	Thr	Pro	Asn	Leu	Ala	Ala	Lys	Asn	Val	Phe	Pro	Pro	Pro	Ser	185	190	195	
Gln	Thr	Trp	Ala	Arg	Arg	His	Lys	Arg	Glu	Thr	Leu	Lys	Ala	Thr	200	205	210	







				500						505				510
Cys	Gln	Asp	Val	Asp 515	Gly	Tyr	Cys	Tyr	Asn 520	Gly	Ile	Cys	Gln	Thr 525
His	Glu	Gln	Gln	Cys 530	Val	Thr	Leu	Trp	Gly 535	Pro	Gly	Ala	Lys	Pro 540
Ala	Pro	Gly	Ile	Cys 545	Phe	Glu	Arg	Val	Asn 550	Ser	Ala	Gly	Asp	Pro 555
Tyr	Gly	Asn	Cys	Gly 560	Lys	Val	Ser	Lys	Ser 565	Ser	Phe	Ala	Lys	Cys 570
Glu	Met	Arg	Asp	Ala 575	Lys	Cys	Gly	Lys	Ile 580	Gln	Cys	Gln	Gly	Gly 585
Ala	Ser	Arg	Pro	Val 590	Ile	Gly	Thr	Asn	Ala 595	Val	Ser	Ile	Glu	Thr 600
Asn	Ile	Pro	Leu	Gln 605	Gln	Gly	Gly	Arg	Ile 610	Leu	Cys	Arg	Gly	Thr 615
His	Val	Tyr	Leu	Gly 620	Asp	Asp	Met	Pro	Asp 625	Pro	Gly	Leu	Val	Leu 630
Ala	Gly	Thr	Lys	Cys 635	Ala	Asp	Gly	Lys	Ile 640	Cys	Leu	Asn	Arg	Gln 645
Cys	Gln	Asn	Ile	Ser 650	Val	Phe	Gly	Val	His 655	Glu	Cys	Ala	Met	Gln 660
Cys	His	Gly	Arg	Gly 665	Val	Cys	Asn	Asn	Arg 670	Lys	Asn	Cys	His	Cys 675
Glu	Ala	His	Trp	Ala 680	Pro	Pro	Phe	Cys	Asp 685	Lys	Phe	Gly	Phe	Gly 690
Gly	Ser	Thr	Asp	Ser 695	Gly	Pro	Ile	Arg	Gln 700	Ala	Glu	Ala	Arg	Gln 705
Glu	Ala	Ala	Glu	Ser 710	Asn	Arg	Glu	Arg	Gly 715	Gln	Gly	Gln	Glu	Pro 720
Val	Gly	Ser	Gln	Glu 725	His	Ala	Ser	Thr	Ala 730	Ser	Leu	Thr	Leu	Ile 735

<211> 483

<213> Hom

<220>

<221> unsure

<222> 30, 94, 143, 156, 163, 179, 193, 369, 371, 381, 390, 473

<223> unknown base

<400> 75



tcccaaggct tcttgatgg cagatgattn tggggttttg cattgtttcc 50  
 ctgacaacga aaacaaaaca gttttggggg ttcaggaggg gaantccagc 100  
 ctaccagga agtttgaga aacagtgcaa ggaagggcag ganttcctgg 150  
 ttgagntttt tgntaaaaca tggacatgnt tcagtgtgc tontgagaga 200  
 gtagcagggtt accacttttg gcaggcccca gccctgcagc aaggaggaag 250  
 aggactcaaa agtttggcct ttcaactgagc ctccacagca gtgggggaga 300  
 agcaagggtt gggcccagtg tcccctttcc ccagtgcac ctcagccttg 350  
 gcagccctga taactggtnt ntggctgcaa nttaatgctn tgatatggct 400  
 ttttagcattt attatatgaa aatagcaggg ttttagtttt taatttatca 450  
 gagaccctgc caccattcc atntccatcc aag 483

<210> 76

<211> 27

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 76

gtctcagcac gtgttctggt ctcagg 27

<210> 77

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 77

catgagcatg tgcacggc 18

<210> 78

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 78

tacctgcacg atgggcac 18

<210> 79

<211> 18

<212> DNA

<213> Artificial Sequence



<220>  
<223> Synthetic oligonucleotide probe

<400> 79  
cactgggcac ctcccttc 18

<210> 80  
<211> 26  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 80  
ctccaggctg gtctccaagt ccttcc 26

<210> 81  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 81  
tccctgttgg actctgcagc ttcc 24

<210> 82  
<211> 19  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 82  
cttcgctggg aagagtttg 19

<210> 83  
<211> 50  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 83  
gtgcaaccaa cagatacaaa ctcttccag cgaagaagct gaaaagcgtc 50

<210> 84  
<211> 1714  
<212> DNA  
<213> Homo sapiens

<400> 84  
catcctgcaa catggtgaaa ccacgcctgg ctaattttgt tgtatttttg 50



gtagagatgg	gatttcacccg	tgttagccag	gattgtctca	atctgacctc	100
atgatctgcc	cgcctcggcc	tcccaaagtg	ctgggattac	aggcgagtgc	150
aaccacaccc	ggccacaaac	tttttaagaa	gttaatgaaa	ccataccttt	200
tacattttta	atgacaggaa	aatgctcaca	ataattgtta	acccaaaatt	250
ctggatacaa	aagtacaatc	tttactgtgt	aaatacatgt	atatgtacta	300
tatgaaaata	taccaaatat	caataatact	tatctctggg	taaaaacctc	350
ttctcatacc	ctgtgctaac	aacttttaac	aaaaaatttg	catcactttt	400
aagaatcaag	aaaaatttct	gaaggtcata	tgggacagaa	aaaaaaacca	450
agggaaaaat	cacgccactt	gggaaaaaaaa	gattcgaaat	ctgccttttt	500
atagatttgt	aattaataag	gtccaggctt	tctaagcaac	ttaaattgtt	550
tgtttcgaaa	caaagtactt	gtctggatgt	aggaggaaa	ggagtgatgt	600
cactgccatt	atgatgcccc	ttgaatataa	gaccctactt	gctatctccc	650
ctgcaccagc	caggagccac	ccatcctcca	gcacactgag	cagcaagctg	700
gacacacggc	acactgatcc	aaatgggtaa	ggggatggtg	gcgatgctca	750
ttctgggtct	gctactttctg	gcgctgctcc	taccctgca	ggtttcttca	800
tttgttcctt	taaccagtat	gccggaagct	actgcagccg	aaaccacaaa	850
gccctccaac	agtgccctac	agcctacagc	cggtctcctt	gtgggtcttgc	900
ttgcccttct	acatctctac	cattaagagg	cagggtcaaga	aacagctaca	950
gttctccaac	ccatacacta	aaaccgaatc	caaattgtgc	ctagaagttc	1000
aatgtggcaa	ggaaaaaaaa	cagggtcttca	tcaaactctac	taatttcact	1050
ccttattaac	agagaaacgc	ttgagagtct	caaactggac	tggtttaaag	1100
agcatctgaa	ggatttgact	agatgataaa	tgctgtact	cccagtactt	1150
tgggaggcct	aggccggcgg	atcacctgag	gtcaggagtt	tgagactaac	1200
ctggccaaaa	tggtgaaacc	ccatctgtac	taaaaataca	aatattgact	1250
gggcgtggtg	gtgagtgcct	gtgatcccag	ctactcaggt	ggctgaagca	1300
ggacaatcac	ttgaactcag	gaggcagagg	ttgcagtgag	ctgagatcgc	1350
gctactgcac	tctagcctag	cctgggcaac	agagtgagac	ttcgtctcaa	1400
aaaaaaaaaa	gccaagtgca	gtggctcacg	cctgtaatcc	cggcactttg	1450
ggaggccgag	gtggggcggat	cacgaggtca	ggagatcaag	accatcctgg	1500



ctaatacagt gaaaccctgt ctctactaaa aatacaaaaa attagccggg 1550  
 gatggtggca ggcacctgga gtcccagcta ctcgggaggc tgaggcagga 1600  
 gaatagcgtg aactcaggag gcggagcttg cagtgagccg agattgcgct 1650  
 actgcactcc agcctgggag acagcgcgag actccgtctc aaaaaaaaaa 1700  
 aaaaaaaaaa aaaa 1714

<210> 85  
 <211> 67  
 <212> PRT  
 <213> Homo sapiens

<400> 85  
 Met Gly Lys Gly Met Val Ala Met Leu Ile Leu Gly Leu Leu Leu  
 1 5 10 15  
 Leu Ala Leu Leu Leu Pro Val Gln Val Ser Ser Phe Val Pro Leu  
 20 25 30  
 Thr Ser Met Pro Glu Ala Thr Ala Ala Glu Thr Thr Lys Pro Ser  
 35 40 45  
 Asn Ser Ala Leu Gln Pro Thr Ala Gly Leu Leu Val Val Leu Leu  
 50 55 60  
 Ala Leu Leu His Leu Tyr His  
 65

<210> 86  
 <211> 23  
 <212> DNA  
 <213> Artificial Sequence  
 <220>  
 <223> Synthetic oligonucleotide probe

<400> 86  
 acgggcacac tggatcccaa atg 23

<210> 87  
 <211> 29  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 87  
 ggtagagatg tagaagggca agcaagacc 29

<210> 88  
 <211> 50  
 <212> DNA  
 <213> Artificial Sequence



<220>  
<223> Synthetic oligonucleotide probe

<400> 88  
gctccctacc cgtgcaggtt tcttcatttg ttccctttaac cagtatgccg 50

<210> 89  
<211> 2956  
<212> DNA

<213> Homo sapiens

<400> 89  
gccgcggcga gagcgcgccc agccccgcgc cgatgcccgc gcgcccagga 50  
cgccctctcc cgctgctggc ccggccggcg gccctgactg cgctgctgct 100  
gctgctgctg ggccatggcg gcggcgggcg ctggggcgcc cgggccagga 150  
aggcggcggc ggcgcgggcg gacgggcccc ccgcggcaga cggcgaggac 200  
ggacaggacc cgcacagcaa gcacctgtac acggccgaca tggtcacgca 250  
cgggatccag agcgcgcgcg acttcgtcat gttcttcgcg ccctgggtgtg 300  
gacactgcca gcggctgcag ccgacttgga atgacctggg agacaaatac 350  
aacagcatgg aagatgccaa agtctatgtg gctaaagtgg actgcacggc 400  
ccactccgac gtgtgctccg cccagggggg gcgaggatac cccaccttaa 450  
agcttttcaa gccaggccaa gaagctgtga agtaccaggg tcctcgggac 500  
ttccagacac tgaaaaactg gatgctgcag aactgaacg aggagccagt 550  
gacaccagag ccggaagtgg aaccgcccag tgcccccgag ctcaagcaag 600  
ggctgtatga gctctcagca agcaactttg agctgcacgt tgcacaaggc 650  
gaccacttta tcaagttctt cgctccgtgg tgtggtcact gcaaagccct 700  
ggctccaacc tgggagcagc tggctctggg ccttgaacat tccgaaactg 750  
tcaagattgg caaggttgat tgtacacagc actatgaact ctgctccgga 800  
aaccagggtc gtggctatcc cactcttctc tggttccgag atgggaaaaa 850  
ggtggatcag tacaaggga agcgggattt ggagtcactg agggagtacg 900  
tggagtcgca gctgcagcgc acagagactg gagcgacgga gaccgtcacg 950  
ccctcagagg ccccggtgct ggcagctgag cccgaggctg acaagggcac 1000  
tgtgttggca ctactgaaa ataacttcga tgacaccatt gcagaaggaa 1050  
taaccttcat caagttttat gctccatggg gtggtcattg taagactctg 1100  
gtccctactt gggaggaact ctctaaaaag gaattccctg gtctggcggg 1150







tgcattccaac actcttcacc cacctcccat acgcaagggg atgtggatac 2650  
 ttggcccaaa gtaactgggtg gtaggaatct tagaaacaag accacttata 2700  
 ctgtctgtct gaggcagaag ataacagcag catctcgacc agcctctgcc 2750  
 ttaaaggaaa tctttattaa tcacgtatgg ttcacagata attctttttt 2800  
 taaaaaaacc caacctccta gagaagcaca actgtcaaga gtcttgtaca 2850  
 cacaacttca gctttgcatc acgagtcttg tattccaaga aaatcaaagt 2900  
 ggtacaattt gtttgtttac actatgatac tttctaaata aactcttttt 2950  
 ttttaa 2956

<210> 90  
 <211> 432  
 <212> PRT  
 <213> Homo sapiens

<400> 90

Met	Pro	Ala	Arg	Pro	Gly	Arg	Leu	Leu	Pro	Leu	Leu	Ala	Arg	Pro
1				5					10					15
Ala	Ala	Leu	Thr	Ala	Leu	Leu	Leu	Leu	Leu	Leu	Gly	His	Gly	Gly
				20					25					30
Gly	Gly	Arg	Trp	Gly	Ala	Arg	Ala	Gln	Glu	Ala	Ala	Ala	Ala	Ala
				35					40					45
Ala	Asp	Gly	Pro	Pro	Ala	Ala	Asp	Gly	Glu	Asp	Gly	Gln	Asp	Pro
				50					55					60
His	Ser	Lys	His	Leu	Tyr	Thr	Ala	Asp	Met	Phe	Thr	His	Gly	Ile
				65					70					75
Gln	Ser	Ala	Ala	His	Phe	Val	Met	Phe	Phe	Ala	Pro	Trp	Cys	Gly
				80					85					90
His	Cys	Gln	Arg	Leu	Gln	Pro	Thr	Trp	Asn	Asp	Leu	Gly	Asp	Lys
				95					100					105
Tyr	Asn	Ser	Met	Glu	Asp	Ala	Lys	Val	Tyr	Val	Ala	Lys	Val	Asp
				110					115					120
Cys	Thr	Ala	His	Ser	Asp	Val	Cys	Ser	Ala	Gln	Gly	Val	Arg	Gly
				125					130					135
Tyr	Pro	Thr	Leu	Lys	Leu	Phe	Lys	Pro	Gly	Gln	Glu	Ala	Val	Lys
				140					145					150
Tyr	Gln	Gly	Pro	Arg	Asp	Phe	Gln	Thr	Leu	Glu	Asn	Trp	Met	Leu
				155					160					165
Gln	Thr	Leu	Asn	Glu	Glu	Pro	Val	Thr	Pro	Glu	Pro	Glu	Val	Glu
				170					175					180







<400> 91  
atgttcttcg cgccctggtg 20

<210> 92  
<211> 21  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 92  
ccaagccaac acactctaca g 21

<210> 93  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

400 93  
aagtggtcgc cttgtgcaac gtgc 24

210 94  
211 23  
212 DNA  
213 Artificial Sequence

220  
223 Synthetic oligonucleotide probe

400 94  
ggtcaaagg gatatatcgc cac 23

210 95  
211 49  
212 DNA  
213 Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 95  
gcatggaaga tgccaaagtc tatgtggcta aagtggactg cacggccca 49

<210> 96  
<211> 1016  
<212> DNA  
<213> Homo sapiens

<400> 96  
cttttctgag gaaccacagc aatgaatggc tttgcatcct tgcttcgaag 50  
aaaccaattt atcctcctgg tactattttct tttgcaaatt cagagtctgg 100  
gtctggatat tgatagccgt cctaccgctg aagtctgtgc cacacacaca 150











<223> Synthetic oligonucleotide probe

<400> 99

gatgatggag gctccatacc tcag 24

<210> 100

<211> 50

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 100

gtgttcattg gcgtgaatga ccttgaaagg gagggacagt acatgttcac 50

<210> 101

<211> 2574

<212> DNA

<213> Homo sapiens

<400> 101

ggttctatcg attcgaattc ggccacactg gccggatcct ctagagatcc 50

ctcgacctcg acccacgcgt ccgctgctct ccgcccgtgt ggagtggtag 100

gggcctgggt gggaatgggc gtgtgccagc gcacgcgcgc tccctggaag 150

gagaagtctc agctagaacg agcggcccta ggttttcgga agggaggatc 200

agggatgttt gcgagcggct ggaaccagac ggtgccgata gaggaagcgg 250

gctccatggc tgccctcctg ctgctgcccc tgctgctgtt gctaccgctg 300

ctgctgctga agctacacct ctggccgcag ttgcgctggc ttccggcgga 350

cttggccttt gcggtgcgag ctctgtgctg caaaagggct cttcgagctc 400

gcgccctggc cgcggctgcc gccgaccggg aagggtccga ggggggctgc 450

agcctggcct gggcctcgc ggaactggcc cagcagcgcg ccgcgcacac 500

ctttctcatt cacggctcgc ggcgttttag ctactcagag gcggagcgcg 550

agagtaacag ggctgcacgc gccttcctac gtgcgctagg ctgggactgg 600

ggacccgacg gcggcgacag cggcgagggg agcgctggag aaggcgagcg 650

ggcagcgccg ggagccggag atgcagcggc cggaagcggc gcggagtttg 700

ccggagggga cggcgccgcc agaggtaggag gagccgcgcg ccctctgtca 750

cctggagcaa ctgtggcgct gctcctcccc gctggcccag agtttctgtg 800

gctctggttc gggctggcca aggcgggcct gcgcaactgcc tttgtgcca 850

ccgccctgcg ccggggcccc ctgctgcaact gcctccgcag ctgcggcgcg 900







tggggggccgt tgcaggtgta ctgggctgtc agggatcttt tctataccag 2400  
 aactgcggtc actattttgt aataaatgtg gctggagctg atccagctgt 2450  
 ctctgaccta aaaaaaaaaa aaaaaaaaaa aaaaaaaag ggcggccgcg 2500  
 actctagagt cgacctgcag tagggataac agggtaataa gcttgccgc 2550  
 catggcccaa cttgtttatt gcag 2574

<210> 102

<211> 730

<212> PRT

<213> Homo sapiens

<400> 102

Met	Gly	Val	Cys	Gln	Arg	Thr	Arg	Ala	Pro	Trp	Lys	Glu	Lys	Ser	1	5	10	15
Gln	Leu	Glu	Arg	Ala	Ala	Leu	Gly	Phe	Arg	Lys	Gly	Gly	Ser	Gly	20	25	30	
Met	Phe	Ala	Ser	Gly	Trp	Asn	Gln	Thr	Val	Pro	Ile	Glu	Glu	Ala	35	40	45	
Gly	Ser	Met	Ala	Ala	Leu	Leu	Leu	Leu	Pro	Leu	Leu	Leu	Leu	Leu	50	55	60	
Pro	Leu	Leu	Leu	Leu	Lys	Leu	His	Leu	Trp	Pro	Gln	Leu	Arg	Trp	65	70	75	
Leu	Pro	Ala	Asp	Leu	Ala	Phe	Ala	Val	Arg	Ala	Leu	Cys	Cys	Lys	80	85	90	
Arg	Ala	Leu	Arg	Ala	Arg	Ala	Leu	Ala	Ala	Ala	Ala	Ala	Asp	Pro	95	100	105	
Glu	Gly	Pro	Glu	Gly	Gly	Cys	Ser	Leu	Ala	Trp	Arg	Leu	Ala	Glu	110	115	120	
Leu	Ala	Gln	Gln	Arg	Ala	Ala	His	Thr	Phe	Leu	Ile	His	Gly	Ser	125	130	135	
Arg	Arg	Phe	Ser	Tyr	Ser	Glu	Ala	Glu	Arg	Glu	Ser	Asn	Arg	Ala	140	145	150	
Ala	Arg	Ala	Phe	Leu	Arg	Ala	Leu	Gly	Trp	Asp	Trp	Gly	Pro	Asp	155	160	165	
Gly	Gly	Asp	Ser	Gly	Glu	Gly	Ser	Ala	Gly	Glu	Gly	Glu	Arg	Ala	170	175	180	
Ala	Pro	Gly	Ala	Gly	Asp	Ala	Ala	Ala	Gly	Ser	Gly	Ala	Glu	Phe	185	190	195	
Ala	Gly	Gly	Asp	Gly	Ala	Ala	Arg	Gly	Gly	Gly	Ala	Ala	Ala	Pro	200	205	210	



Leu	Ser	Pro	Gly	Ala	Thr	Val	Ala	Leu	Leu	Leu	Pro	Ala	Gly	Pro	
				215					220					225	
Glu	Phe	Leu	Trp	Leu	Trp	Phe	Gly	Leu	Ala	Lys	Ala	Gly	Leu	Arg	
				230					235					240	
Thr	Ala	Phe	Val	Pro	Thr	Ala	Leu	Arg	Arg	Gly	Pro	Leu	Leu	His	
				245					250					255	
Cys	Leu	Arg	Ser	Cys	Gly	Ala	Arg	Ala	Leu	Val	Leu	Ala	Pro	Glu	
				260					265					270	
Phe	Leu	Glu	Ser	Leu	Glu	Pro	Asp	Leu	Pro	Ala	Leu	Arg	Ala	Met	
				275					280					285	
Gly	Leu	His	Leu	Trp	Ala	Ala	Gly	Pro	Gly	Thr	His	Pro	Ala	Gly	
				290					295					300	
Ile	Ser	Asp	Leu	Leu	Ala	Glu	Val	Ser	Ala	Glu	Val	Asp	Gly	Pro	
				305					310					315	
Val	Pro	Gly	Tyr	Leu	Ser	Ser	Pro	Gln	Ser	Ile	Thr	Asp	Thr	Cys	
				320					325					330	
Leu	Tyr	Ile	Phe	Thr	Ser	Gly	Thr	Thr	Gly	Leu	Pro	Lys	Ala	Ala	
				335					340					345	
Arg	Ile	Ser	His	Leu	Lys	Ile	Leu	Gln	Cys	Gln	Gly	Phe	Tyr	Gln	
				350					355					360	
Leu	Cys	Gly	Val	His	Gln	Glu	Asp	Val	Ile	Tyr	Leu	Ala	Leu	Pro	
				365					370					375	
Leu	Tyr	His	Met	Ser	Gly	Ser	Leu	Leu	Gly	Ile	Val	Gly	Cys	Met	
				380					385					390	
Gly	Ile	Gly	Ala	Thr	Val	Val	Leu	Lys	Ser	Lys	Phe	Ser	Ala	Gly	
				395					400					405	
Gln	Phe	Trp	Glu	Asp	Cys	Gln	Gln	His	Arg	Val	Thr	Val	Phe	Gln	
				410					415					420	
Tyr	Ile	Gly	Glu	Leu	Cys	Arg	Tyr	Leu	Val	Asn	Gln	Pro	Pro	Ser	
				425					430					435	
Lys	Ala	Glu	Arg	Gly	His	Lys	Val	Arg	Leu	Ala	Val	Gly	Ser	Gly	
				440					445					450	
Leu	Arg	Pro	Asp	Thr	Trp	Glu	Arg	Phe	Val	Arg	Arg	Phe	Gly	Pro	
				455					460					465	
Leu	Gln	Val	Leu	Glu	Thr	Tyr	Gly	Leu	Thr	Glu	Gly	Asn	Val	Ala	
				470					475					480	
Thr	Ile	Asn	Tyr	Thr	Gly	Gln	Arg	Gly	Ala	Val	Gly	Arg	Ala	Ser	
				485					490					495	
Trp	Leu	Tyr	Lys	His	Ile	Phe	Pro	Phe	Ser	Leu	Ile	Arg	Tyr	Asp	







<210> 104  
<211> 18  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 104  
ggagaatgtg gccacaac 18

<210> 105  
<211> 26  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 105  
gccctggcac agtgactcca tagacg 26

<210> 106  
<211> 18  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 106  
atccacttca gcggacac 18

<210> 107  
<211> 45  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 107  
ccagtgccag gatacctctc ttccccccag agcataacag acacg 45

<210> 108  
<211> 2579  
<212> DNA  
<213> Homo sapiens

<400> 108  
cctgtgttaa gctgaggttt cccctagatc tcgtatatcc ccaacacata 50  
cctccacgca cacacatccc caagaacctc gagctcacac caacagacac 100  
acgogcgcat acacactcgc tctcgcttgt ccatctccct cccgggggag 150  
ccggcgcgcg ctcccacctt tgccgcacac tccggcgagc cgagccccgca 200











Ser	Gln	Gln	Ser	Lys	Leu	Glu	Phe	Glu	Asn	Leu	Val	Glu	Glu	Thr	80	85	90
Ser	His	Phe	Val	Arg	Thr	Thr	Phe	Val	Ser	Arg	His	Lys	Lys	Phe	95	100	105
Asp	Glu	Phe	Phe	Arg	Glu	Leu	Leu	Glu	Asn	Ala	Glu	Lys	Ser	Leu	110	115	120
Asn	Asp	Met	Phe	Val	Arg	Thr	Tyr	Gly	Met	Leu	Tyr	Met	Gln	Asn	125	130	135
Ser	Glu	Val	Phe	Gln	Asp	Leu	Phe	Thr	Glu	Leu	Lys	Arg	Tyr	Tyr	140	145	150
Thr	Gly	Gly	Asn	Val	Asn	Leu	Glu	Glu	Met	Leu	Asn	Asp	Phe	Trp	155	160	165
Ala	Arg	Leu	Leu	Glu	Arg	Met	Phe	Gln	Leu	Ile	Asn	Pro	Gln	Tyr	170	175	180
His	Phe	Ser	Glu	Asp	Tyr	Leu	Glu	Cys	Val	Ser	Lys	Tyr	Thr	Asp	185	190	195
Gln	Leu	Lys	Pro	Phe	Gly	Asp	Val	Pro	Arg	Lys	Leu	Lys	Ile	Gln	200	205	210
Val	Thr	Arg	Ala	Phe	Ile	Ala	Ala	Arg	Thr	Phe	Val	Gln	Gly	Leu	215	220	225
Thr	Val	Gly	Arg	Glu	Val	Ala	Asn	Arg	Val	Ser	Lys	Val	Ser	Pro	230	235	240
Thr	Pro	Gly	Cys	Ile	Arg	Ala	Leu	Met	Lys	Met	Leu	Tyr	Cys	Pro	245	250	255
Tyr	Cys	Arg	Gly	Leu	Pro	Thr	Val	Arg	Pro	Cys	Asn	Asn	Tyr	Cys	260	265	270
Leu	Asn	Val	Met	Lys	Gly	Cys	Leu	Ala	Asn	Gln	Ala	Asp	Leu	Asp	275	280	285
Thr	Glu	Trp	Asn	Leu	Phe	Ile	Asp	Ala	Met	Leu	Leu	Val	Ala	Glu	290	295	300
Arg	Leu	Glu	Gly	Pro	Phe	Asn	Ile	Glu	Ser	Val	Met	Asp	Pro	Ile	305	310	315
Asp	Val	Lys	Ile	Ser	Glu	Ala	Ile	Met	Asn	Met	Gln	Glu	Asn	Ser	320	325	330
Met	Gln	Val	Ser	Ala	Lys	Val	Phe	Gln	Gly	Cys	Gly	Gln	Pro	Lys	335	340	345
Pro	Ala	Pro	Ala	Leu	Arg	Ser	Ala	Arg	Ser	Ala	Pro	Glu	Asn	Phe	350	355	360
Asn	Thr	Arg	Phe	Arg	Pro	Tyr	Asn	Pro	Glu	Glu	Arg	Pro	Thr	Thr			



				365					370					375
Ala	Ala	Gly	Thr	Ser 380	Leu	Asp	Arg	Leu	Val 385	Thr	Asp	Ile	Lys	Glu 390
Lys	Leu	Lys	Leu	Ser 395	Lys	Lys	Val	Trp	Ser 400	Ala	Leu	Pro	Tyr	Thr 405
Ile	Cys	Lys	Asp	Glu 410	Ser	Val	Thr	Ala	Gly 415	Thr	Ser	Asn	Glu	Glu 420
Glu	Cys	Trp	Asn	Gly 425	His	Ser	Lys	Ala	Arg 430	Tyr	Leu	Pro	Glu	Ile 435
Met	Asn	Asp	Gly	Leu 440	Thr	Asn	Gln	Ile	Asn 445	Asn	Pro	Glu	Val	Asp 450
Val	Asp	Ile	Thr	Arg 455	Pro	Asp	Thr	Phe	Ile 460	Arg	Gln	Gln	Ile	Met 465
Ala	Leu	Arg	Val	Met 470	Thr	Asn	Lys	Leu	Lys 475	Asn	Ala	Tyr	Asn	Gly 480
Asn	Asp	Val	Asn	Phe 485	Gln	Asp	Thr	Ser	Asp 490	Glu	Ser	Ser	Gly	Ser 495
Gly	Ser	Gly	Ser	Gly 500	Cys	Met	Asp	Asp	Val 505	Cys	Pro	Thr	Glu	Phe 510
Glu	Phe	Val	Thr	Thr 515	Glu	Ala	Pro	Ala	Val 520	Asp	Pro	Asp	Arg	Arg 525
Glu	Val	Asp	Ser	Ser 530	Ala	Ala	Gln	Arg	Gly 535	His	Ser	Leu	Leu	Ser 540
Trp	Ser	Leu	Thr	Cys 545	Ile	Val	Leu	Ala	Leu 550	Gln	Arg	Leu	Cys	Arg 555

 $\langle 210 \rangle$  110

<211> 21

<212> DNA

<213> Artificial Sequence

$\langle 220 \rangle$

<223> Synthetic oligonucleotide probe

<400> 110

aagcgtgaca gcgggcacgt c 21

 $\langle 210 \rangle$  111

<211> 24

<212> DNA

<213> Artificial Sequence

 $\langle 220 \rangle$ 

<223> Synthetic oligonucleotide probe

<400> 111







cctcctcact	tatgggttacc	tgtcctgggg	ccaggcctta	gaagaggagg	1050
aagaaggggc	cttactagct	caagctggag	agaaaactaga	gcccagcaca	1100
acttccacct	cccagcccca	tctcattttc	atcctagcgg	atgatcaggg	1150
atttagagat	gtgggttacc	acggatctga	gattaaaaca	cctactcttg	1200
acaagctcgc	tgccgaagga	gttaaactgg	agaactacta	tgtccagcct	1250
atttgcacac	catccaggag	tcagtttatt	actggaaagt	atcagataca	1300
caccggactt	caacattcta	tcataagacc	tacccaaccc	aactgtttac	1350
ctctggacaa	tgccacccta	cctcagaaac	tgaaggaggt	tggaatttca	1400
acgcatatgg	tcggaaaatg	gcacttgggt	tttaacagaa	aagaatgcat	1450
gccaccaga	agaggatttg	ataccttttt	tggttccctt	ttgggaagtg	1500
gggattacta	tacacactac	aaatgtgaca	gtcctgggat	gtgtggctat	1550
gacttgatatg	aaaacgacaa	tgctgcctgg	gactatgaca	atggcatata	1600
ctccacacag	atgtacactc	agagagtaca	gcaaatctta	gcttcccata	1650
acccacaaaa	gcctatatatt	ttatatactg	cctatcaagc	tgttcattca	1700
ccactgcaag	ctcctggcag	gtatttcgaa	cactaccgat	ccattatcaa	1750
cataaacagg	agaagatatg	ctgccatgct	ttcctgctta	gatgaagcaa	1800
tcaacaacgt	gacattggct	ctaaagactt	atggtttcta	taacaacagc	1850
attatcattt	actcttcaga	taatgggtggc	cagcctacgg	caggagggag	1900
taactggcct	ctcagaggta	gcaaaggaac	atattgggaa	ggagggatcc	1950
gggctgtagg	ctttgtgcat	agcccacttc	tgaaaaacaa	gggaacagtg	2000
tgtaaggaac	ttgtgcacat	cactgactgg	taccccactc	tcattttcact	2050
ggctgaagga	cagattgatg	aggacattca	actagatggc	tatgatatct	2100
gggagaccat	aagtgagggg	cttcgctcac	cccagagtaga	tattttgcat	2150
aacattgacc	cctatacacc	aaggcaaaaa	atggctcctg	ggcagcaggc	2200
tatgggatct	ggaacactgc	aatccagtca	gccatcagag	tgcagcactg	2250
gaaattgctt	acaggaaatc	ctggctacag	cgactgggtc	ccccctcagt	2300
ctttcagcaa	cctgggaccg	aaccggtggc	acaatgaacg	gatcaccttg	2350
tcaactggca	aaagtgtatg	gcttttcaac	atcacagccg	acccatatga	2400
gaggggtggac	ctatctaaca	ggtatccagg	aatcgtgaag	aagctcctac	2450



ggaggctctc	acagttcaac	aaaactgcag	tgccgggtcag	gtatccccc	2500
aaagacccca	gaagtaaccc	taggctcaat	ggaggggtct	ggggaccatg	2550
gtataaagag	gaaaccaaga	aaaagaagcc	aagcaaaaat	caggctgaga	2600
aaaagcaaaa	gaaaagcaaa	aaaaagaaga	agaaacagca	gaaagcagtc	2650
tcaggtaaac	cagcaaattt	ggctcgataa	tatcgctggc	ctaagcgtca	2700
ggcttgtttt	catgctgtgc	cactccagag	acttctgcca	cctggccgcc	2750
acactgaaaa	ctgtcctgct	cagtgccaa	gtgctactct	tgcaagccac	2800
acttagagag	agtggagatg	tttatttctc	tcgctccttt	agaaaacgtg	2850
gtgagtcctg	agttccactg	ctgtgcttca	gtcaactgac	caaacactgc	2900
tttgaattat	aggaggagaa	caataaccta	ccatccgcaa	gcatgcta	2950
ttgatggaag	ttacagggtg	gcatgattaa	aactaccttt	gataaattac	3000
agtcaaagat	tgtgtcacct	caaaggcctt	gaagaatata	ttttcttggt	3050
gaatTTTTgt	atgtctgtca	tatgacactt	gggtttttta	attaattcta	3100
ttttatatat	ataaatatat	gtttcttttc	ctgtgaaaag	ctgtttttct	3150
cacatgtgaa	cagcttgcac	ctcattttac	catgctgag	ggaatggcaa	3200
ataagaatgt	ttgagcacac	tgcccacaat	gaatgtaact	attttctaaa	3250
cactttacta	gaagaacatt	tcagtataaa	aaacctaatt	tatttttaca	3300
gaaaaatatt	ttgttgTTTT	tataaaaagt	tatgcaa	acttttattt	3350
ttattttcctg	cataccatta	gaagaatttt	atttcatttc	ttcaaattat	3400
caagcactgt	aatactataa	attaatgtaa	tactgtgtga	attcagacta	3450
taaaaaacat	cattcagaaa	actttataat	cgtcattggt	caatcaagat	3500
tttgaatgta	ataagatgaa	tatattcctt	acaaattact	tggaatttca	3550
atgtttgtgc	agagttgaga	caactttatt	gtttctatca	taaactattt	3600
atgtatctta	attattaaaa	tgatttactt	tatggcacta	gaaaattttac	3650
tgtggctttt	ctgatctaac	ttctagctaa	aattgtatca	ttggctctaa	3700
aaaataaaaa	tctttactaa	taggcaattg	aaggaatgg	ttgcta	3750
ccacagtaat	ataatatgat	tttacagata	gatgcttccc	cttggctatg	3800
acatggagaa	agattttccc	ataataataa	ctaataattta	tattaggttg	3850
gtgcaaaact	agttgoggtt	tttccatta	aaagtaataa	ccttactctt	3900







Ile Cys Thr Pro Ser Arg Ser Gln Phe	Ile Thr Gly Lys Tyr Gln	
125	130	135
Ile His Thr Gly Leu Gln His Ser Ile	Ile Arg Pro Thr Gln Pro	
140	145	150
Asn Cys Leu Pro Leu Asp Asn Ala Thr	Leu Pro Gln Lys Leu Lys	
155	160	165
Glu Val Gly Tyr Ser Thr His Met Val	Gly Lys Trp His Leu Gly	
170	175	180
Phe Asn Arg Lys Glu Cys Met Pro Thr	Arg Arg Gly Phe Asp Thr	
185	190	195
Phe Phe Gly Ser Leu Leu Gly Ser Gly	Asp Tyr Tyr Thr His Tyr	
200	205	210
Lys Cys Asp Ser Pro Gly Met Cys Gly	Tyr Asp Leu Tyr Glu Asn	
215	220	225
Asp Asn Ala Ala Trp Asp Tyr Asp Asn	Gly Ile Tyr Ser Thr Gln	
230	235	240
Met Tyr Thr Gln Arg Val Gln Gln Ile	Leu Ala Ser His Asn Pro	
245	250	255
Thr Lys Pro Ile Phe Leu Tyr Thr Ala	Tyr Gln Ala Val His Ser	
260	265	270
Pro Leu Gln Ala Pro Gly Arg Tyr Phe	Glu His Tyr Arg Ser Ile	
275	280	285
Ile Asn Ile Asn Arg Arg Arg Tyr Ala	Ala Met Leu Ser Cys Leu	
290	295	300
Asp Glu Ala Ile Asn Asn Val Thr Leu	Ala Leu Lys Thr Tyr Gly	
305	310	315
Phe Tyr Asn Asn Ser Ile Ile Ile Tyr	Ser Ser Asp Asn Gly Gly	
320	325	330
Gln Pro Thr Ala Gly Gly Ser Asn Trp	Pro Leu Arg Gly Ser Lys	
335	340	345
Gly Thr Tyr Trp Glu Gly Gly Ile Arg	Ala Val Gly Phe Val His	
350	355	360
Ser Pro Leu Leu Lys Asn Lys Gly Thr	Val Cys Lys Glu Leu Val	
365	370	375
His Ile Thr Asp Trp Tyr Pro Thr Leu	Ile Ser Leu Ala Glu Gly	
380	385	390
Gln Ile Asp Glu Asp Ile Gln Leu Asp	Gly Tyr Asp Ile Trp Glu	
395	400	405



Thr	Ile	Ser	Glu	Gly	Leu	Arg	Ser	Pro	Arg	Val	Asp	Ile	Leu	His
				410					415					420
Asn	Ile	Asp	Pro	Tyr	Thr	Pro	Arg	Gln	Lys	Met	Ala	Pro	Gly	Gln
				425					430					435
Gln	Ala	Met	Gly	Ser	Gly	Thr	Leu	Gln	Ser	Ser	Gln	Pro	Ser	Glu
				440					445					450
Cys	Ser	Thr	Gly	Asn	Cys	Leu	Gln	Glu	Ile	Leu	Ala	Thr	Ala	Thr
				455					460					465
Gly	Ser	Pro	Leu	Ser	Leu	Ser	Ala	Thr	Trp	Asp	Arg	Thr	Gly	Gly
				470					475					480
Thr	Met	Asn	Gly	Ser	Pro	Cys	Gln	Leu	Ala	Lys	Val	Tyr	Gly	Phe
				485					490					495
Ser	Thr	Ser	Gln	Pro	Thr	His	Met	Arg	Gly	Trp	Thr	Tyr	Leu	Thr
				500					505					510
Gly	Ile	Gln	Glu	Ser										
				515										

CCCAACCCAA CTGTTTACCT CTGG 24

<210> 115  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 115  
 cccaacccaa ctgtttacct ctgg 24

<210> 116  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 116  
 ctctctgagt gtacatctgt gtgg 24

<210> 117  
 <211> 53  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<220>  
 <221> unsure  
 <222> 33  
 <223> unknown base



<400> 117  
gccaccctac ctcagaaaact gaaggagggtt ggntattcaa cgcataatggt 50  
cgg 53

<210> 118  
<211> 2260  
<212> DNA  
<213> Homo sapiens

<220>  
<221> unsure  
<222> 2009, 2026, 2033, 2055, 2074, 2078, 2086  
<223> unknown base

<400> 118  
cggacgcgtg ggtgcgagt gagcggagga cccgagcggc tgaggagaga 50  
ggaggcggcg gcttagctgc tacgggggtcc ggccggcgcc ctcccagagg 100  
gggctcagga ggaggaagga ggacccgtgc gagaatgcct ctgccctgga 150  
gccttgcgct cccgctgctg ctctcctggg tggcaggtgg ttccgggaac 200  
gcgggccagt caaggcatca cgggttggtta gcatcggcac gtcagcctgg 250  
ggtctgtcac tatggaacta aactggcctg ctgctacggc tggagaagaa 300  
acagcaaggg agtctgtgaa gctacatgcg aacctggatg taagtttggt 350  
gagtgcgtgg gaccaaaca atgcagatgc tttccaggat acaccgggaa 400  
aacctgcagt caagatgtga atgagtgtgg aatgaaaccc cggccatgcc 450  
aacacagatg tgtgaataca cacggaagct acaagtgtt ttgcctcagt 500  
ggccacatgc tcatgccaga tgctacgtgt gtgaactcta ggacatgtgc 550  
catgataaac tgtcagtaca gctgtgaaga cacagaagaa gggccacagt 600  
gcctgtgtcc atcctcagga ctccgcctgg ccccaaattg aagagactgt 650  
ctagatattg atgaatgtgc ctctggtaaa gtcattctgc cctacaatcg 700  
aagatgtgtg aacacatttg gaagctacta ctgcaaattg cacattgggt 750  
tcgaactgca atatatcagt ggacgatatg actgtataga tataaatgaa 800  
tgtactatgg atagccatac gtgcagccac catgccaatt gcttcaatac 850  
ccaagggtcc ttcaagtgt aatgcaagca gggatataaa ggcaatggac 900  
ttcgggtgtt tgctatccct gaaaattctg tgaaggaggt cctcagagca 950  
cctggtacca tcaaagacag aatcaagaag ttgcttgctc acaaaaacag 1000  
catgaaaaag aaggcaaaaa ttaaaaatgt taccacagaa cccaccagga 1050























<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 126

ctgtgaatag catcctggg 19

<210> 127

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 127

cttttcaagc cactggaggg 20

<210> 128

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 128

ctgtagacat ccaagctggg atcc 24

<210> 129

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 129

aagagtctgc atccacacca ctc 23

<210> 130

<211> 46

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 130

acctgacgct actatgggcc gagtggcagg gacgacgccc agaagtg 46

<210> 131

<211> 2365

<212> DNA

<213> Homo sapiens

<400> 131















				365					370					375
Thr	Arg	Pro	Glu	Glu 380	Trp	Gly	Leu	Lys	Gln 385	Leu	Ile	Leu	His	Gly 390
Ala	Tyr	Thr	His	Pro 395	Glu	Gly	Gly	Tyr	Asp 400	Met	Ala	Leu	Leu	Leu 405
Leu	Ala	Gln	Pro	Val 410	Thr	Leu	Gly	Ala	Ser 415	Leu	Arg	Pro	Leu	Cys 420
Leu	Pro	Tyr	Pro	Asp 425	His	His	Leu	Pro	Asp 430	Gly	Glu	Arg	Gly	Trp 435
Val	Leu	Gly	Arg	Ala 440	Arg	Pro	Gly	Ala	Gly 445	Ile	Ser	Ser	Leu	Gln 450
Thr	Val	Pro	Val	Thr 455	Leu	Leu	Gly	Pro	Arg 460	Ala	Cys	Ser	Arg	Leu 465
His	Ala	Ala	Pro	Gly 470	Gly	Asp	Gly	Ser	Pro 475	Ile	Leu	Pro	Gly	Met 480
Val	Cys	Thr	Ser	Ala 485	Val	Gly	Glu	Leu	Pro 490	Ser	Cys	Glu	Gly	Leu 495
Ser	Gly	Ala	Pro	Leu 500	Val	His	Glu	Val	Arg 505	Gly	Thr	Trp	Phe	Leu 510
Ala	Gly	Leu	His	Ser 515	Phe	Gly	Asp	Ala	Cys 520	Gln	Gly	Pro	Ala	Arg 525
Pro	Ala	Val	Phe	Thr 530	Ala	Leu	Pro	Ala	Tyr 535	Glu	Asp	Trp	Val	Ser 540
Ser	Leu	Asp	Trp	Gln 545	Val	Tyr	Phe	Ala	Glu 550	Glu	Pro	Glu	Pro	Glu 555
Ala	Glu	Pro	Gly	Ser 560	Cys	Leu	Ala	Asn	Ile 565	Ser	Gln	Pro	Thr	Ser 570

Cys

<210> 133

<211> 24

<212> DNA

<213> Artificial Sequence

 $\langle 220 \rangle$ 

<223> Synthetic oligonucleotide probe

<400> 133

cctgtgctgt gcctcgagcc tgac 24

<210> 134

<211> 24

<212> DNA



<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 134

gtgggcagca gttagcaccg cctc 24

<210> 135

<211> 45

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 135

ggctggcatc atcagctttg catcaagctg tgcccaggag gacgc 45

<210> 136

<211> 1998

<212> DNA

<213> Homo sapiens

<400> 136

cgggccgccc ccggccccc ttctggcgcg gctcgctgc ggcggcgact 50  
gagccaggct gggccgcgtc cctgagtccc agagtcggcg cggcgcgga 100  
ggggcagcct tccaccacg ggagcccagc tgtcagccgc ctcacaggaa 150  
gatgctgcgt cggcggggca gccctggcat ggggtgtcat gtgggtgag 200  
ccctgggagc actgtggttc tgcctcacag gagccctgga ggtccaggtc 250  
cctgaagacc cagtgtgtgc actggtgggc accgatgcca ccctgtgctg 300  
ctccttctcc cctgagcctg gcttcagcct ggcacagctc aacctcatct 350  
ggcagctgac agatacaaaa cagctgtgtc acagctttgc tgagggccag 400  
gaccagggca ggcctatgc caaccgcacg gccctcttcc cggacctgct 450  
ggcacagggc aacgcatccc tgaggctgca gcgcgtgcgt gtggcgagcg 500  
agggcagctt cacctgcttc gtgagcatcc gggatttcgg cagcgctgcc 550  
gtcagcctgc aggtggccgc tccctactcg aagcccagca tgaccctgga 600  
gccaacaag gacctgcggc caggggacac ggtgaccatc acgtgctcca 650  
gctaccaggg ctaccctgag gctgaggtgt tctggcagga tgggcagggt 700  
gtgcccctga ctggcaacgt gaccacgtcg cagatggcca acgagcaggg 750  
cttgtttgat gtgcacagcg tctgcgggt ggtgctgggt gcgaatggca 800  
cctacagctg cctggtgcgc aaccccgctc tgcagcagga tgcgcacrgc 850



tctgtcacca tcacagggca gcctatgaca ttccccccag aggccctgtg 900  
 ggtgaccgtg gggctgtctg tctgtctcat tgcactgctg gtggccctgg 950  
 ctttcgtgtg ctggagaaaag atcaaacaga gctgtgagga ggagaatgca 1000  
 ggagctgagg accaggatgg ggagggagaa ggctccaaga cagccctgca 1050  
 gcctctgaaa cactctgaca gcaaagaaga tgatggacaa gaaatagcct 1100  
 gaccatgagg accagggagc tgctaccctt ccctacagct cctaccctct 1150  
 ggctgcaatg gggctgcaat gtgagccctg cccccaacag atgcatcctg 1200  
 ctctgacagg tgggctcctt ctccaaagga tgcgatacac agaccactgt 1250  
 gcagccttat ttctccaatg gacatgattc ccaagtcata ctgctgcctt 1300  
 ttttcttata gacacaatga acagaccacc cacaacctta gttctctaag 1350  
 tcacctctgcc tgctgcctta tttcacagta catacatttc ttagggacac 1400  
 agtacactga ccacatcacc accctcttct tccagtgtg cgtggaccat 1450  
 ctggctgcct tttttctcca aaagatgcaa tattcagact gactgacccc 1500  
 ctgccttatt tcaccaaaga cacgatgcat agtcaccccg gccttgtttc 1550  
 tccaatggcc gtgatacact agtgatcatg ttcagccctg cttccacctg 1600  
 catagaatct tttcttctca gacagggaca gtgcggcctc aacatctcct 1650  
 ggagtctaga agctgtttcc tttcccctcc ttctccctg cccaagtga 1700  
 agacagggca gggccaggaa tgctttgggg acaccgaggg gactgcccc 1750  
 cccccccacc atggtgctat tctggggctg gggcagtctt ttcttggtt 1800  
 gcctctggcc agctcctggc ctctggtaga gtgagacttc agacgttctg 1850  
 atgccttccg gatgtcatct ctccctgcc caggaatgga agatgtgagg 1900  
 acttctaatt taaatgtggg actcggaggg attttgtaaa ctgggggtat 1950  
 attttgggga aaataaatgt ctttgtaaaa aaaaaaaaaa aaaaaaaa 1998

<210> 137

<211> 316

<212> PRT

<213> Homo sapiens

<220>

<221> unsure

<222> 233

<223> unknown amino acid

<400> 137

Met Leu Arg Arg Arg Gly Ser Pro Gly Met Gly Val His Val Gly



1					5					10					15
Ala	Ala	Leu	Gly	Ala	Leu	Trp	Phe	Cys	Leu	Thr	Gly	Ala	Leu	Glu	
				20					25					30	
Val	Gln	Val	Pro	Glu	Asp	Pro	Val	Val	Ala	Leu	Val	Gly	Thr	Asp	
				35					40					45	
Ala	Thr	Leu	Cys	Cys	Ser	Phe	Ser	Pro	Glu	Pro	Gly	Phe	Ser	Leu	
				50					55					60	
Ala	Gln	Leu	Asn	Leu	Ile	Trp	Gln	Leu	Thr	Asp	Thr	Lys	Gln	Leu	
				65					70					75	
Val	His	Ser	Phe	Ala	Glu	Gly	Gln	Asp	Gln	Gly	Ser	Ala	Tyr	Ala	
				80					85					90	
Asn	Arg	Thr	Ala	Leu	Phe	Pro	Asp	Leu	Leu	Ala	Gln	Gly	Asn	Ala	
				95					100					105	
Ser	Leu	Arg	Leu	Gln	Arg	Val	Arg	Val	Ala	Asp	Glu	Gly	Ser	Phe	
				110					115					120	
Thr	Cys	Phe	Val	Ser	Ile	Arg	Asp	Phe	Gly	Ser	Ala	Ala	Val	Ser	
				125					130					135	
Leu	Gln	Val	Ala	Ala	Pro	Tyr	Ser	Lys	Pro	Ser	Met	Thr	Leu	Glu	
				140					145					150	
Pro	Asn	Lys	Asp	Leu	Arg	Pro	Gly	Asp	Thr	Val	Thr	Ile	Thr	Cys	
				155					160					165	
Ser	Ser	Tyr	Gln	Gly	Tyr	Pro	Glu	Ala	Glu	Val	Phe	Trp	Gln	Asp	
				170					175					180	
Gly	Gln	Gly	Val	Pro	Leu	Thr	Gly	Asn	Val	Thr	Thr	Ser	Gln	Met	
				185					190					195	
Ala	Asn	Glu	Gln	Gly	Leu	Phe	Asp	Val	His	Ser	Val	Leu	Arg	Val	
				200					205					210	
Val	Leu	Gly	Ala	Asn	Gly	Thr	Tyr	Ser	Cys	Leu	Val	Arg	Asn	Pro	
				215					220					225	
Val	Leu	Gln	Gln	Asp	Ala	His	Xaa	Ser	Val	Thr	Ile	Thr	Gly	Gln	
				230					235					240	
Pro	Met	Thr	Phe	Pro	Pro	Glu	Ala	Leu	Trp	Val	Thr	Val	Gly	Leu	
				245					250					255	
Ser	Val	Cys	Leu	Ile	Ala	Leu	Leu	Val	Ala	Leu	Ala	Phe	Val	Cys	
				260					265					270	
Trp	Arg	Lys	Ile	Lys	Gln	Ser	Cys	Glu	Glu	Glu	Asn	Ala	Gly	Ala	
				275					280					285	
Glu	Asp	Gln	Asp	Gly	Glu	Gly	Glu	Gly	Ser	Lys	Thr	Ala	Leu	Gln	
				290					295					300	



Pro Leu Lys His Ser Asp Ser Lys Glu Asp Asp Gly Gln Glu Ile  
 305 310 315

Ala

<210> 138

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 138

ctggcacagc tcaacctcat ctgg 24

<210> 139

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 139

gctgtctgtc tgtctcattg 20

<210> 140

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 140

ggacacagta tactgaccac 20

<210> 141

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 141

tgcgaaccag gcagctgtaa gtgc 24

<210> 142

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe



<400> 142  
tggaagaaga ggggtggtgat gtgg 24

<210> 143  
<211> 45  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 143  
cagctgacag acaccaaaaca gctggtgcac agtttcaccg aaggc 45

<210> 144  
<211> 2336  
<212> DNA  
<213> Homo sapiens

<220>  
<221> unsure  
<222> 1620, 1673  
<223> unknown base

<400> 144  
ttcgtgaccc ttgagaaaag agttggtggt aaatgtgcc a cgtcttctaa 50  
gaagggggag tcctgaactt gtctgaagcc cttgtccgta agccttgaac 100  
tacgttctta aatctatgaa gtcgaggac ctttcgctgc ttttgtaggg 150  
acttctttcc ttgcttcagc aacatgaggc ttttcttggtg gaacgcggtc 200  
ttgactctgt tcgtcacttc tttgattggg gctttgatcc ctgaaccaga 250  
agtgaaaatt gaagttctcc agaagccatt catctgccat cgcaagacca 300  
aaggagggga tttgatgttg gtccactatg aaggctactt agaaaaggac 350  
ggctccttat ttcactccac tcacaaacat aacaatggtc agcccatttg 400  
gtttaccctg ggcacccctg aggtctctca aggttgggac cagggttgga 450  
aaggaatgtg tgtaggagag aagagaaagc tcatcattcc tcctgctctg 500  
ggctatggaa aagaaggaaa aggtaaaatt cccccagaaa gtacactgat 550  
atttaatat gatctcctgg agattcgaaa tggaccaaga tcccatgaat 600  
cattccaaga aatggatctt aatgatgact ggaaactctc taaagatgag 650  
gttaaagcat atttaaagaa ggagtttgaa aaacatggtg cgggtggtgaa 700  
tgaaagtcac catgatgctt tgggtggagga tatttttgat aaagaagatg 750  
aagacaaaga tgggtttata tctgccagag aatttacata taaacacgat 800  
gagttataga gatacatcta cccttttaat atagcactca tctttcaaga 850



gagggcagtc atctttaaaag aacattttat tttatacaa tgttctttct 900  
tgctttgttt tttattttta tatatTTTT ctgactccta tttaaagaac 950  
cccttaggtt tctaagtacc catttctttc tgataagtta ttgggaagaa 1000  
aaagctaatt ggtctttgaa tagaagactt ctggacaatt tttcactttc 1050  
acagatatga agctttgttt tactttctca cttataaatt taaaatgttg 1100  
caactgggaa tataaccaga catgagacca gggtatagca caaattagca 1150  
ccctatattt ctgcttccct ctatTTTctc caagttagag gtcaacattt 1200  
gaaaagcctt ttgcaatagc ccaaggcttg ctatTTTcat gttataatga 1250  
aatagtttat gtgtaactgg ctctgagtct ctgcttgagg accagaggaa 1300  
aatggttggt ggacctgact tgttaatggc tactgcttta ctaaggagat 1350  
gtgcaatgct gaagttagaa acaagggttaa tagccaggca tgggtggctca 1400  
tgcttgtaat ccagcactt tgggaggctg aggcgggcgg atcacctgag 1450  
gttgggagtt cgagaccagc ctgaccaaca cggagaaacc ctatctctac 1500  
taaaaatata aagtagcccg gcggtggtgat gcgtgcctgt aatccagct 1550  
accaggaag gctgaggcgg cagaatcact tgaaccgag gccgagggtt 1600  
cggtaagccg agatcacctn cagcctggac actctgtctc gaaaaaagaa 1650  
aagaacacgg ttaataccat atnaatatgt atgcattgag acatgctacc 1700  
taggacttaa gctgatgaag cttggctcct agtgattggt ggcctattat 1750  
gataaatagg acaaatcatt tatgtgtgag tttctttgta ataaaatgta 1800  
tcaatatggt atagatgagg tagaaagtta tatttatatt caatatttac 1850  
ttcttaaggc tagcggaaata tccttcctgg ttctttaatg ggtagtctat 1900  
agtatattat actacaataa cattgtatca taagataaag tagtaaacca 1950  
gtctacattt tccattttct gtctcatcaa aaactgaagt tagctgggtg 2000  
tgggtggctca tgcctgtaat ccagcactt tgggggcaa ggagggtgga 2050  
tcacttgaga tcaggagttc aagaccagcc tggccaacat ggtgaaacct 2100  
tgtctctact aaaaatacaa aaattagcca ggcgtggtgg tgcacacctg 2150  
tagtcccagc tactcgggag gctgagacag gagatttgct tgaaccggg 2200  
aggcggaggt tgcagtgagc caagattgtg ccactgcact ccagcctggg 2250  
tgacagagca agactccatc tcaaaaaaaa aaaaaagaag cagacctaca 2300



gcagctacta ttgaataaat acctatcctg gatttt 2336

<210> 145

<211> 211

<212> PRT

<213> Homo sapiens

<400> 145

Met Arg Leu Phe Leu Trp Asn Ala Val Leu Thr Leu Phe Val Thr  
1 5 10 15

Ser Leu Ile Gly Ala Leu Ile Pro Glu Pro Glu Val Lys Ile Glu  
20 25 30

Val Leu Gln Lys Pro Phe Ile Cys His Arg Lys Thr Lys Gly Gly  
35 40 45

Asp Leu Met Leu Val His Tyr Glu Gly Tyr Leu Glu Lys Asp Gly  
50 55 60

Ser Leu Phe His Ser Thr His Lys His Asn Asn Gly Gln Pro Ile  
65 70 75

Trp Phe Thr Leu Gly Ile Leu Glu Ala Leu Lys Gly Trp Asp Gln  
80 85 90

Gly Leu Lys Gly Met Cys Val Gly Glu Lys Arg Lys Leu Ile Ile  
95 100 105

Pro Pro Ala Leu Gly Tyr Gly Lys Glu Gly Lys Gly Lys Ile Pro  
110 115 120

Pro Glu Ser Thr Leu Ile Phe Asn Ile Asp Leu Leu Glu Ile Arg  
125 130 135

Asn Gly Pro Arg Ser His Glu Ser Phe Gln Glu Met Asp Leu Asn  
140 145 150

Asp Asp Trp Lys Leu Ser Lys Asp Glu Val Lys Ala Tyr Leu Lys  
155 160 165

Lys Glu Phe Glu Lys His Gly Ala Val Val Asn Glu Ser His His  
170 175 180

Asp Ala Leu Val Glu Asp Ile Phe Asp Lys Glu Asp Glu Asp Lys  
185 190 195

Asp Gly Phe Ile Ser Ala Arg Glu Phe Thr Tyr Lys His Asp Glu  
200 205 210

Leu

<210> 146

<211> 26

<212> DNA

<213> Artificial Sequence



<220>  
<223> Synthetic oligonucleotide probe

<400> 146  
ctttccttgc ttcagcaaca tgaggc 26

<210> 147  
<211> 25  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 147  
gcccagagca ggaggaatga tgagc 25

<210> 148  
<211> 49  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 148  
gtggaacgcg gtcttgactc tgttcgtcac ttctttgatt ggggctttg 49

<210> 149  
<211> 2196  
<212> DNA  
<213> Homo sapiens

<400> 149  
aataaagctt cottaatggt gtatatgtct ttgaagtaca tccgtgcatt 50  
tttttttagc atccaacat tcctcccttg tagttctcgc cccctcaa 100  
caccctotcc cgtagccac ccgactaaca tctcagtctc tgaaaatgca 150  
cagagatgcc tggctacctc gccctgcctt cagcctcacg gggctcagtc 200  
tctttttctc ttggtgcca ccaggacgga gcatggaggt cacagtacct 250  
gccaccctca acgtcctcaa tggctctgac gcccgctgc cctgcacctt 300  
caactcctgc tacacagtga accacaaaca gttctccctg aactggactt 350  
accaggagtg caacaactgc tctgaggaga tgttctcca gttccgcatg 400  
aagatcatta acctgaagct ggagcgggtt caagaccgcg tggagttctc 450  
agggaaacccc agcaagtacg atgtgtcgt gatgctgaga aacgtgcagc 500  
cggaggatga ggggatttac aactgctaca tcatgaaccc ccctgaccgc 550  
caccgtggcc atggcaagat ccatctgcag gtccatcatgg aagagccccc 600



tgagcgggac tccacggtgg ccgtgattgt gggcgcctcc gtcgggggct 650  
 tcctggctgt ggtcatcttg gtgctgatgg tggcgaagtg tgtgaggaga 700  
 aaaaaagagc agaagctgag cacagatgac ctgaagaccg aggaggaggg 750  
 caagacggac ggtgaaggca acccgatga tggcgccaag tagtgggtgg 800  
 ccggccctgc agcctcccggt gtcccgcttc ctccctctc cgcctgtac 850  
 agtgaccctg cctgctcgct cttggtgtgc ttcccgtagc ctaggacccc 900  
 agggcccacc tggggcctcc tgaacccccg acttcgtatc tcccaccctg 950  
 caccaagagt gaccactct cttccatccg agaaacctgc catgctctgg 1000  
 gacgtgtggg ccctggggag aggagagaaa gggctccac ctgccagtcc 1050  
 ctggggggag gcaggaggca catgtgaggg tcccagaga gaagggagtg 1100  
 ggtgggcagg ggtagaggag gggccgctgt cacctgcca gtgcttgct 1150  
 ggcagtggct tcagagagga cctggtggg aggagggtt ttctgtgt 1200  
 gacagcgctc cctcaggagg gccttgccct ggcacggctg tgctcctccc 1250  
 ctgctcccag ccagagcag ccacagggt ggaggtgacg atgagttcct 1300  
 gaaacttga ggggcatgtt aaagggatga ctgtgcattc cagggcactg 1350  
 acggaaagcc agggctgcag gcaaagctgg acatgtgcc tggcccagga 1400  
 ggccatgttg ggccctcgtt tccattgcta gtggcctcct tggggctcct 1450  
 gttggctcct aatcccttag gactgtggat gaggccagac tggaagagca 1500  
 gctccaggta gggggccatg tttcccagcg gggaccacc aacagaggcc 1550  
 agtttcaaag tcagctgagg ggctgagggg tggggctcca tggatgaatgc 1600  
 aggttgctgc aggtctgtcc ttctccatgg ggtaaccacc ctgcctggg 1650  
 caggggcagc caaggctggg aaatgaggag gccatgcaca gggggggca 1700  
 gctttctttg gggcttcagt gagaactctc ccagttgcc ttggtgggt 1750  
 ttccacctgg cttttggcta cagagaggga agggaaagcc tgaggccggc 1800  
 ataaggggag gccttggaac ctgagctgcc aatgccagcc ctgtcccatc 1850  
 tgcggccacg ctactcgctc ctctcccaac aactcccttc gtggggacaa 1900  
 aagtgacaat tgtaggccag gcacagtggc tcacgcctgt aatcccagca 1950  
 ctttgggagg ccaaggcggg tggattacct ccactgttt agtagaaatg 2000  
 ggcaaaacc catctctact aaaaatacaa gaattagctg ggcgtggtg 2050



cgtgtgcctg taatcccagc tatttgggag gctgaggcag gagaatcgct 2100  
 tgagcccggg aagcagaggt tgcagtgaac tgagatagtg atagtgccac 2150  
 tgcaattcag cctgggtgac atagagagac tccatctcaa aaaaaa 2196

<210> 150  
 <211> 215  
 <212> PRT  
 <213> Homo sapiens

<400> 150

Met	His	Arg	Asp	Ala	Trp	Leu	Pro	Arg	Pro	Ala	Phe	Ser	Leu	Thr	1	5	10	15
Gly	Leu	Ser	Leu	Phe	Phe	Ser	Leu	Val	Pro	Pro	Gly	Arg	Ser	Met	20	25	30	
Glu	Val	Thr	Val	Pro	Ala	Thr	Leu	Asn	Val	Leu	Asn	Gly	Ser	Asp	35	40	45	
Ala	Arg	Leu	Pro	Cys	Thr	Phe	Asn	Ser	Cys	Tyr	Thr	Val	Asn	His	50	55	60	
Lys	Gln	Phe	Ser	Leu	Asn	Trp	Thr	Tyr	Gln	Glu	Cys	Asn	Asn	Cys	65	70	75	
Ser	Glu	Glu	Met	Phe	Leu	Gln	Phe	Arg	Met	Lys	Ile	Ile	Asn	Leu	80	85	90	
Lys	Leu	Glu	Arg	Phe	Gln	Asp	Arg	Val	Glu	Phe	Ser	Gly	Asn	Pro	95	100	105	
Ser	Lys	Tyr	Asp	Val	Ser	Val	Met	Leu	Arg	Asn	Val	Gln	Pro	Glu	110	115	120	
Asp	Glu	Gly	Ile	Tyr	Asn	Cys	Tyr	Ile	Met	Asn	Pro	Pro	Asp	Arg	125	130	135	
His	Arg	Gly	His	Gly	Lys	Ile	His	Leu	Gln	Val	Leu	Met	Glu	Glu	140	145	150	
Pro	Pro	Glu	Arg	Asp	Ser	Thr	Val	Ala	Val	Ile	Val	Gly	Ala	Ser	155	160	165	
Val	Gly	Gly	Phe	Leu	Ala	Val	Val	Ile	Leu	Val	Leu	Met	Val	Val	170	175	180	
Lys	Cys	Val	Arg	Arg	Lys	Lys	Glu	Gln	Lys	Leu	Ser	Thr	Asp	Asp	185	190	195	
Leu	Lys	Thr	Glu	Glu	Glu	Gly	Lys	Thr	Asp	Gly	Glu	Gly	Asn	Pro	200	205	210	
Asp	Asp	Gly	Ala	Lys	215													

<210> 151



<211> 524  
<212> DNA  
<213> Homo sapiens

<220>  
<221> unsure  
<222> 103, 233  
<223> unknown base

<400> 151  
gttgtatatg tcctgaagta catccgtgca ttttttttag catccaacca 50  
tcctcccttg tagttctcgc cccctcaaatt caccttctcc cttagcccac 100  
ccnactaaca tctcagtctc tgaaaatgca cagagatgcc tggctacctc 150  
gccctgcctt cagcctcagc gggctcagtc tctttttctc tttggtgcc 200  
ccaggacgga gcatggaggt ccacagtacc tgnccaccct caacgtcctc 250  
aatggctctg acgcccgcct gccctgcctt tcaactcctg ctacacagtg 300  
aaccacaaac agttctccct gaactggact taccaggagt gcaacaactg 350  
ctctgaggag atgttctctc agttccgcat gaagatcatt aacctgaagc 400  
tggagcgggt tcaagaccgc gtggagttct cagggaacct cagcaagtac 450  
gatgtgtcgg tgatgctgag aaacgtgcag ccggaggatg aggggattta 500  
caactgctac atcatgaacc cccc 524

<210> 152  
<211> 368  
<212> DNA  
<213> Homo sapiens

<220>  
<221> unsure  
<222> 56, 123  
<223> unknown base

<400> 152  
tcacggggct catctctttt tctcttttgt gccaccagg acggagcatg 50  
gaggtncaca tacctgccac cctcaacgtc ctcaatggct ttgacgcccg 100  
cctgccctgc accttcaact ccngctacac agtgaaccac aaacagttct 150  
ccctgaactg gatttaccag gagtgcaca actggctctg aggagatgtt 200  
cctccagttc ccgcatggaa gatcatttaa cctgaaagct ggaagcgggt 250  
ttcaagaacc gcgtggaagt ttctcaggga accccagcaa gtacgatgtg 300  
tcggtgatgc tgagaaacgt gcagccggag gatgagggga tttacaactg 350  
ctacatcatg aaccccc 368



<210> 153  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 153  
acggagcatg gaggtccaca gtac 24

<210> 154  
<211> 23  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 154  
gcacgtttct cagcatcacc gac 23

<210> 155  
<211> 50  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 155  
cgccctgccct gcaccttcaa ctctgctac acagtgaacc acaaacagtt 50

<210> 156  
<211> 2680  
<212> DNA  
<213> Homo sapiens

<400> 156  
tgcggcgacc gtcgtacacc atgggcctcc acctccgccc ctaccgtgtg 50  
gggctgctcc cggatggcct cctgttcctc ttgtgctgc taatgctgct 100  
cgcggaacca gcgctcccg cggacgtca cccccagtg gtgctgggtcc 150  
ctggtgattt gggtaaccaa ctggaagcca agctggacaa gccgacagtg 200  
gtgcactacc tctgctcaa gaagaccgaa agctacttca caatctggct 250  
gaacctggaa ctgctgctgc ctgtcatcat tgactgctgg attgacaata 300  
tcaggctggg ttacaacaaa acatccaggg ccacccagtt tctgatggg 350  
gtggatgtac gtgtccctgg ctttggaag accttctcac tggagttcct 400  
ggacccagc aaaagcagcg tgggttcta tttccacacc atggtggaga 450  
gccttggtgg ctggggctac acacggggtg aggatgtccg aggggctccc 500



tatgactggc	gccgagcccc	aatgaaaaac	gggccctact	tcttggccct	550
ccgcgagatg	atcgaggaga	tgtaccagct	gtatgggggc	cccgtggtgc	600
tggttgccca	cagtatgggc	aacatgtaca	cgctctactt	tctgcagcgg	650
cagccgcagg	cctggaagga	caagtatatc	cgggccctcg	tgtcactggg	700
tgcgccctgg	gggggcgtgg	ccaagaccct	gcgcgtcctg	gcttcaggag	750
acaacaaccg	gatcccagtc	atcgggcccc	tgaagatccg	ggagcagcag	800
cggtcagctg	tctccaccag	ctggctgctg	ccctacaact	acacatggtc	850
acctgagaag	gtgttcgtgc	agacaccac	aatcaactac	acactgcggg	900
actaccgcaa	gttcttccag	gacatcggct	ttgaagatgg	ctggctcatg	950
cggcaggaca	cagaagggct	ggtggaagcc	acgatgccac	ctggcgtgca	1000
gctgcactgc	ctctatggta	ctggcgtccc	cacaccagac	tccttctact	1050
atgagagctt	ccctgaccgt	gaccctaaaa	tctgctttgg	tgacggcgat	1100
ggtactgtga	acttgaagag	tgccctgcag	tgccaggcct	ggcagagccg	1150
ccaggagcac	caagtgttgc	tgcaggagct	gccaggcagc	gagcacatcg	1200
agatgctggc	caacgccacc	accctggcct	atctgaaacg	tgtgctcctt	1250
gggccctgac	tctgttgcca	caggactcct	gtggctcggc	cgtggacctg	1300
ctgttggcct	ctggggctgt	catggcccac	gcgttttgca	aagtttgtga	1350
ctcaccattc	aaggccccga	gtcttggact	gtgaagcatc	tgccatgggg	1400
aagtgctggt	tgttatcctt	tctctgtggc	agtgaagaag	gaagaaatga	1450
gagtctagac	tcaagggaca	ctggatggca	agaatgctgc	tgatggtgga	1500
actgctgtga	ccttaggact	ggctccacag	ggtggactgg	ctggggccctg	1550
gtcccagtcc	ctgcctgggg	ccatgtgtcc	ccctattcct	gtgggctttt	1600
catacttgcc	tactggggcc	tggccccgca	gccttcctat	gagggatggt	1650
actgggctgt	ggtcctgtac	ccagaggctc	cagggatcgg	ctcctggccc	1700
ctcgggtgac	ccttcccaca	caccagccac	agataggcct	gccactggtc	1750
atgggtagct	agagctgctg	gcttccctgt	ggcttagctg	gtggccagcc	1800
tgactggctt	cctgggcgag	cctagtagct	cctgcaggca	ggggcagttt	1850
gttgcgttct	tcgtggttcc	caggccctgg	gacatctcac	tccactccta	1900
cctcccttac	caccaggagc	attcaagctc	tggattgggc	agcagatgtg	1950







				110					115					120
Thr	Phe	Ser	Leu	Glu 125	Phe	Leu	Asp	Pro	Ser 130	Lys	Ser	Ser	Val	Gly 135
Ser	Tyr	Phe	His	Thr 140	Met	Val	Glu	Ser	Leu 145	Val	Gly	Trp	Gly	Tyr 150
Thr	Arg	Gly	Glu	Asp 155	Val	Arg	Gly	Ala	Pro 160	Tyr	Asp	Trp	Arg	Arg 165
Ala	Pro	Asn	Glu	Asn 170	Gly	Pro	Tyr	Phe	Leu 175	Ala	Leu	Arg	Glu	Met 180
Ile	Glu	Glu	Met	Tyr 185	Gln	Leu	Tyr	Gly	Gly 190	Pro	Val	Val	Leu	Val 195
Ala	His	Ser	Met	Gly 200	Asn	Met	Tyr	Thr	Leu 205	Tyr	Phe	Leu	Gln	Arg 210
Gln	Pro	Gln	Ala	Trp 215	Lys	Asp	Lys	Tyr	Ile 220	Arg	Ala	Phe	Val	Ser 225
Leu	Gly	Ala	Pro	Trp 230	Gly	Gly	Val	Ala	Lys 235	Thr	Leu	Arg	Val	Leu 240
Ala	Ser	Gly	Asp	Asn 245	Asn	Arg	Ile	Pro	Val 250	Ile	Gly	Pro	Leu	Lys 255
Ile	Arg	Glu	Gln	Gln 260	Arg	Ser	Ala	Val	Ser 265	Thr	Ser	Trp	Leu	Leu 270
Pro	Tyr	Asn	Tyr	Thr 275	Trp	Ser	Pro	Glu	Lys 280	Val	Phe	Val	Gln	Thr 285
Pro	Thr	Ile	Asn	Tyr 290	Thr	Leu	Arg	Asp	Tyr 295	Arg	Lys	Phe	Phe	Gln 300
Asp	Ile	Gly	Phe	Glu 305	Asp	Gly	Trp	Leu	Met 310	Arg	Gln	Asp	Thr	Glu 315
Gly	Leu	Val	Glu	Ala 320	Thr	Met	Pro	Pro	Gly 325	Val	Gln	Leu	His	Cys 330
Leu	Tyr	Gly	Thr	Gly 335	Val	Pro	Thr	Pro	Asp 340	Ser	Phe	Tyr	Tyr	Glu 345
Ser	Phe	Pro	Asp	Arg 350	Asp	Pro	Lys	Ile	Cys 355	Phe	Gly	Asp	Gly	Asp 360
Gly	Thr	Val	Asn	Leu 365	Lys	Ser	Ala	Leu	Gln 370	Cys	Gln	Ala	Trp	Gln 375
Ser	Arg	Gln	Glu	His 380	Gln	Val	Leu	Leu	Gln 385	Glu	Leu	Pro	Gly	Ser 390
Glu	His	Ile	Glu	Met 395	Leu	Ala	Asn	Ala	Thr 400	Thr	Leu	Ala	Tyr	Leu 405



Lys Arg Val Leu Leu Gly Pro  
410

<210> 158

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 158

ctggggctac acacggggtg agg 23

<210> 159

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 159

ggtgccgctg cagaaagtag agcg 24

<210> 160

<211> 45

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 160

gccccaaatg aaaacggggcc ctacttctctg gccctccgcg agatg 45

<210> 161

<211> 1512

<212> DNA

<213> Homo sapiens

<400> 161

cggacgcgtg ggcggacgcg tggggcggcg gcagcggcgg cgacggcgac 50

atggagagcg gggcctacgg cgcggccaag gcgggcggct ccttcgacct 100

gcggcgcttc ctgacgcagc cgcaggtggt ggcgcgcgcc gtgtgcttgg 150

tcttcgcctt gatcgtgttc tcttgcattc atggtgaggg ctacagcaat 200

gcccacgagt ctaagcagat gtactgcgtg ttcaaccgca acgaggatgc 250

ctgccgctat ggcagtgcc tgggggtgct ggcttctctg gcctcggcct 300

tcttcttggg ggtcgacgcg tatttcccc agatcagcaa cgccactgac 350

cgcaagtacc tggtcattgg tgacctgctc ttctcagctc tctggacctt 400











<400> 164  
gtgtactgag cggcggttag 20

<210> 165  
<211> 23  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 165  
ctgaaggatga tggctgccct cac 23

<210> 166  
<211> 23  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 166  
ccaggaggct catgggaaag tcc 23

<210> 167  
<211> 50  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 167  
ccacgagtct aagcagatgt actgcgtgtt caaccgcaac gaggatgcct 50

<210> 168  
<211> 3143  
<212> DNA  
<213> Homo sapiens

<400> 168  
gagccaccta ccctgctccg aggccaggcc tgcagggcct catcgccag 50  
agggatgatca gtgagcagaa ggatgcccggt ggccgaggcc cccaggtgg 100  
ctggcgggca gggggacgga ggtgatggcg aggaagcgga gccagagggg 150  
atgttcaagg cctgtgagga ctccaagaga aaagcccggg gctacctccg 200  
cctgggtgcc ctgtttgtgc tgcgtggcct gctcgtgctg gcttcggcgg 250  
gggtgctact ctggtatttc ctagggtaca aggcggaggt gatggtcagc 300  
caggtgtact caggcagtct gcgtgtactc aatcgccact totcccagga 350  
tcttaccgcg cggaatcta gtgccttccg cagtgaacc gccaaagccc 400











Met	Pro	Val	Ala	Glu	Ala	Pro	Gln	Val	Ala	Gly	Gly	Gln	Gly	Asp	1	5	10	15
Gly	Gly	Asp	Gly	Glu	Glu	Ala	Glu	Pro	Glu	Gly	Met	Phe	Lys	Ala	20	25	30	
Cys	Glu	Asp	Ser	Lys	Arg	Lys	Ala	Arg	Gly	Tyr	Leu	Arg	Leu	Val	35	40	45	
Pro	Leu	Phe	Val	Leu	Leu	Ala	Leu	Leu	Val	Leu	Ala	Ser	Ala	Gly	50	55	60	
Val	Leu	Leu	Trp	Tyr	Phe	Leu	Gly	Tyr	Lys	Ala	Glu	Val	Met	Val	65	70	75	
Ser	Gln	Val	Tyr	Ser	Gly	Ser	Leu	Arg	Val	Leu	Asn	Arg	His	Phe	80	85	90	
Ser	Gln	Asp	Leu	Thr	Arg	Arg	Glu	Ser	Ser	Ala	Phe	Arg	Ser	Glu	95	100	105	
Thr	Ala	Lys	Ala	Gln	Lys	Met	Leu	Lys	Glu	Leu	Ile	Thr	Ser	Thr	110	115	120	
Arg	Leu	Gly	Thr	Tyr	Tyr	Asn	Ser	Ser	Ser	Val	Tyr	Ser	Phe	Gly	125	130	135	
Glu	Gly	Pro	Leu	Thr	Cys	Phe	Phe	Trp	Phe	Ile	Leu	Gln	Ile	Pro	140	145	150	
Glu	His	Arg	Arg	Leu	Met	Leu	Ser	Pro	Glu	Val	Val	Gln	Ala	Leu	155	160	165	
Leu	Val	Glu	Glu	Leu	Leu	Ser	Thr	Val	Asn	Ser	Ser	Ala	Ala	Val	170	175	180	
Pro	Tyr	Arg	Ala	Glu	Tyr	Glu	Val	Asp	Pro	Glu	Gly	Leu	Val	Ile	185	190	195	
Leu	Glu	Ala	Ser	Val	Lys	Asp	Ile	Ala	Ala	Leu	Asn	Ser	Thr	Leu	200	205	210	
Gly	Cys	Tyr	Arg	Tyr	Ser	Tyr	Val	Gly	Gln	Gly	Gln	Val	Leu	Arg	215	220	225	
Leu	Lys	Gly	Pro	Asp	His	Leu	Ala	Ser	Ser	Cys	Leu	Trp	His	Leu	230	235	240	
Gln	Gly	Pro	Lys	Asp	Leu	Met	Leu	Lys	Leu	Arg	Leu	Glu	Trp	Thr	245	250	255	
Leu	Ala	Glu	Cys	Arg	Asp	Arg	Leu	Ala	Met	Tyr	Asp	Val	Ala	Gly	260	265	270	
Pro	Leu	Glu	Lys	Arg	Leu	Ile	Thr	Ser	Val	Tyr	Gly	Cys	Ser	Arg	275	280	285	
Gln	Glu	Pro	Val	Val	Glu	Val	Leu	Ala	Ser	Gly	Ala	Ile	Met	Ala				



Val Val Trp Lys	Lys Gly Leu His Ser	Tyr Tyr Asp Pro Phe	Val
305		310	315
Leu Ser Val Gln	Pro Val Val Phe Gln	Ala Cys Glu Val Asn	Leu
320		325	330
Thr Leu Asp Asn	Arg Leu Asp Ser Gln	Gly Val Leu Ser Thr	Pro
335		340	345
Tyr Phe Pro Ser	Tyr Tyr Ser Pro Gln	Thr His Cys Ser Trp	His
350		355	360
Leu Thr Val Pro	Ser Leu Asp Tyr Gly	Leu Ala Leu Trp Phe	Asp
365		370	375
Ala Tyr Ala Leu	Arg Arg Gln Lys Tyr	Asp Leu Pro Cys Thr	Gln
380		385	390
Gly Gln Trp Thr	Ile Gln Asn Arg Arg	Leu Cys Gly Leu Arg	Ile
395		400	405
Leu Gln Pro Tyr	Ala Glu Arg Ile Pro	Val Val Ala Thr Ala	Gly
410		415	420
Ile Thr Ile Asn	Phe Thr Ser Gln Ile	Ser Leu Thr Gly Pro	Gly
425		430	435
Val Arg Val His	Tyr Gly Leu Tyr Asn	Gln Ser Asp Pro Cys	Pro
440		445	450
Gly Glu Phe Leu	Cys Ser Val Asn Gly	Leu Cys Val Pro Ala	Cys
455		460	465
Asp Gly Val Lys	Asp Cys Pro Asn Gly	Leu Asp Glu Arg Asn	Cys
470		475	480
Val Cys Arg Ala	Thr Phe Gln Cys Lys	Glu Asp Ser Thr Cys	Ile
485		490	495
Ser Leu Pro Lys	Val Cys Asp Gly Gln	Pro Asp Cys Leu Asn	Gly
500		505	510
Ser Asp Glu Glu	Gln Cys Gln Glu Gly	Val Pro Cys Gly Thr	Phe
515		520	525
Thr Phe Gln Cys	Glu Asp Arg Ser Cys	Val Lys Lys Pro Asn	Pro
530		535	540
Gln Cys Asp Gly	Arg Pro Asp Cys Arg	Asp Gly Ser Asp Glu	Glu
545		550	555
His Cys Asp Cys	Gly Leu Gln Gly Pro	Ser Ser Arg Ile Val	Gly
560		565	570
Gly Ala Val Ser	Ser Glu Gly Glu Trp	Pro Trp Gln Ala Ser	Leu
575		580	585











<211> 22  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 172  
taatccagca gtgcaggccg gg 22

<210> 173  
<211> 50  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 173  
atggcctcca cgggtgctgtg gaccgtgttc ctgggcaagg tgtggcagaa 50

<210> 174  
<211> 25  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 174  
tgcctatgca ctgaggaggc agaag 25

<210> 175  
<211> 25  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 175  
aggcagggac acagagtcca ttcac 25

<210> 176  
<211> 50  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 176  
agtatgattt gccgtgcacc cagggccagt ggacgatcca gaacaggagg 50

<210> 177  
<211> 1510  
<212> DNA  
<213> Homo sapiens



[illegible]

123



aataaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 1500

aaaaaaaaaa 1510

<210> 178

<211> 354

<212> PRT

<213> Homo sapiens

<400> 178

Met Ser Asn Ser Val Pro Leu Leu Cys Phe Trp Ser Leu Cys Tyr  
1 5 10 15

Cys Phe Ala Ala Gly Ser Pro Val Pro Phe Gly Pro Glu Gly Arg  
20 25 30

Leu Glu Asp Lys Leu His Lys Pro Lys Ala Thr Gln Thr Glu Val  
35 40 45

Lys Pro Ser Val Arg Phe Asn Leu Arg Thr Ser Lys Asp Pro Glu  
50 55 60

His Glu Gly Cys Tyr Leu Ser Val Gly His Ser Gln Pro Leu Glu  
65 70 75

Asp Cys Ser Phe Asn Met Thr Ala Lys Thr Phe Phe Ile Ile His  
80 85 90

Gly Trp Thr Met Ser Gly Ile Phe Glu Asn Trp Leu His Lys Leu  
95 100 105

Val Ser Ala Leu His Thr Arg Glu Lys Asp Ala Asn Val Val Val  
110 115 120

Val Asp Trp Leu Pro Leu Ala His Gln Leu Tyr Thr Asp Ala Val  
125 130 135

Asn Asn Thr Arg Val Val Gly His Ser Ile Ala Arg Met Leu Asp  
140 145 150

Trp Leu Gln Glu Lys Asp Asp Phe Ser Leu Gly Asn Val His Leu  
155 160 165

Ile Gly Tyr Ser Leu Gly Ala His Val Ala Gly Tyr Ala Gly Asn  
170 175 180

Phe Val Lys Gly Thr Val Gly Arg Ile Thr Gly Leu Asp Pro Ala  
185 190 195

Gly Pro Met Phe Glu Gly Ala Asp Ile His Lys Arg Leu Ser Pro  
200 205 210

Asp Asp Ala Asp Phe Val Asp Val Leu His Thr Tyr Thr Arg Ser  
215 220 225

Phe Gly Leu Ser Ile Gly Ile Gln Met Pro Val Gly His Ile Asp  
230 235 240



Ile	Tyr	Pro	Asn	Gly	Gly	Asp	Phe	Gln	Pro	Gly	Cys	Gly	Leu	Asn
				245					250					255
Asp	Val	Leu	Gly	Ser	Ile	Ala	Tyr	Gly	Thr	Ile	Thr	Glu	Val	Val
				260					265					270
Lys	Cys	Glu	His	Glu	Arg	Ala	Val	His	Leu	Phe	Val	Asp	Ser	Leu
				275					280					285
Val	Asn	Gln	Asp	Lys	Pro	Ser	Phe	Ala	Phe	Gln	Cys	Thr	Asp	Ser
				290					295					300
Asn	Arg	Phe	Lys	Lys	Gly	Ile	Cys	Leu	Ser	Cys	Arg	Lys	Asn	Arg
				305					310					315
Cys	Asn	Ser	Ile	Gly	Tyr	Asn	Ala	Lys	Lys	Met	Arg	Asn	Lys	Arg
				320					325					330
Asn	Ser	Lys	Met	Tyr	Leu	Lys	Thr	Arg	Ala	Gly	Met	Pro	Phe	Arg
				335					340					345
Gly	Asn	Leu	Gln	Ser	Leu	Glu	Cys	Pro						
				350										

<210> 179

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 179

gtgagcatga gcgagccgtc cac 23

<210> 180

<211> 26

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 180

gctattacaa cggttcttgc ggcagc 26

<210> 181

<211> 44

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 181

ttgactctct ggtgaatcag gacaagccga gttttgcctt ccag 44

<210> 182



<211> 3240  
<212> DNA  
<213> Homo sapiens

<400> 182

cggacgcgtg ggcggacgcg tgggcctggg caagggccgg ggcgccgggc 50  
cgagccacct cttccccctcc cccgcttccc tgtcgcgctc cgctggctgg 100  
acgcgctgga ggagtggagc agcaccocggc cggccctggg ggctgacagt 150  
cggcaaagt tggcccgaag aggaagtggc ctcaaaccac ggcaggtggc 200  
gaccaggcca gaccaggggc gctcgcgtgc tgcgggcggg ctgtaggcga 250  
gggcgcgccc cagtgccgag acccgggggt tcaggagccg gccccgggag 300  
agaagagtgc ggcggcggac ggagaaaaca actccaaagt tggcgaaagg 350  
caccgcccct actcccgggc tgccgcgcgc tccccgccc cagccctggc 400  
atccagagta cgggtcgagc ccgggccatg gagccccct ggggaggcgg 450  
caccagggag cctgggcgcc cggggctcgc ccgcgacccc atcgggtaga 500  
ccacagaagc tccgggaccc ttccggcacc tctggacagc ccaggatgct 550  
gttggccacc ctctcctcc tctccttgg aggcgctctg gccatccag 600  
accggattat ttttccaaat catgcttgtg aggaccccc agcagtgtc 650  
ttagaagtgc agggcacctt acagaggccc ctggtccggg acagccgcac 700  
ctccccctgc aactgcacct ggctcatcct gggcagcaag gaacagactg 750  
tcaccatcag gttccagaag ctacacctgg cctgtggctc agagcgctta 800  
accctacgct cccctctcca gccactgatc tccctgtgtg aggcacctcc 850  
cagccctctg cagctgcccg ggggcaacgt caccatcact tacagctatg 900  
ctggggccag agcaccatg ggccagggt tctgtctctc ctacagccaa 950  
gattggctga tgtgcctgca ggaagagttt cagtgcctga accaccgctg 1000  
tgtatctgct gtccagcgct gtgatgggt tgatgcctgt ggcgatggct 1050  
ctgatgaagc aggttgacgc tcagaccct tccctggcct gacccaaga 1100  
cccgctcccct cctgccttg caatgtcacc ttggaggact tctatggggt 1150  
cttctcctct cctggatata cacacctagc ctcagtctcc caccaccagt 1200  
cctgccattg gctgctggac ccccatgatg gccggcgggt ggccgtgctc 1250  
ttcacagccc tggacttggg ctttggagat gcagtgcctg tgtatgacgg 1300  
ccctgggccc cctgagagct cccgactact gcgtagtctc acccacttca 1350



gcaaatggcaa	ggctgtcact	gtggagacac	tgtctggcca	ggctgttggtg	1400
tcctaccaca	cagttgcttg	gagcaatggg	cgtggcttca	atgccaccta	1450
ccatgtgcgg	ggctattgct	tgccttgggg	cagaccctgt	ggcttaggct	1500
ctggcctggg	agctggcgaa	ggcctagggtg	agcgctgcta	cagtgaggca	1550
cagcgctgtg	acggctcatg	ggactgtgct	gacggcacag	atgaggagga	1600
ctgcccaggc	tgcccacctg	gacacttccc	ctgtgggggt	gctggcacct	1650
ctggtgccac	agcctgctac	ctgcctgctg	accgctgcaa	ctaccagact	1700
ttctgtgctg	atggagcaga	tgagagacgc	tgtcggcatt	gccagcctgg	1750
caatttccga	tgccgggacg	agaagtgcgt	gtatgagacg	tgggtgtgcg	1800
atgggcagcc	agactgtgcg	gacggcagtg	atgagtggga	ctgctcctat	1850
gttctgcccc	gcaaggtcac	tacagctgca	gtcattggca	gcctagtgtg	1900
cggcctgctc	ctgggtcatcg	ccctggggctg	cacctgcaag	ctctatgccca	1950
ttcgcaccca	ggagtacagc	atctttgccc	ccctctccccg	gatggagggt	2000
gagattgtgc	agcagcaggc	accccttcc	tacgggcagc	tcattgccca	2050
gggtgccatc	ccacctgtag	aagactttcc	tacagagaat	cctaatagata	2100
actcagtgt	gggcaacctg	cgttctctgc	tacagatott	acgccaggat	2150
atgactccag	gaggtggccc	aggtgcccgc	cgtcgtcagc	ggggccgctt	2200
gatgcgacgc	ctggtacgcc	gtctccgccg	ctggggcttg	ctccctcgaa	2250
ccaacacccc	ggctcggggc	tctgaggcca	gatcccaggt	cacaccttct	2300
gctgctcccc	ttgaggccct	agatggtggc	acaggctccag	cccgtgaggg	2350
cggggcagtg	ggtgggcaag	atggggagca	ggcaccccca	ctgcccata	2400
aggctccct	cccatctgct	agcacgtctc	cagccccccac	tactgtccct	2450
gaagccccag	ggccactgcc	ctcactgccc	ctagagccat	cactattgtc	2500
tggagtggtg	caggccctgc	gaggccgcct	gttgcccagc	ctggggcccc	2550
caggaccaac	ccggagcccc	cctggacccc	acacagcagt	cctggccctg	2600
gaagatgagg	acgatgtgct	actggtgcca	ctggctgagc	cgggggtgtg	2650
ggtagctgag	gcagaggatg	agccactgct	tacctgaggg	gacctggggg	2700
ctctactgag	gcctctcccc	tgggggctct	actcatagt	gcacaacctt	2750
ttagaggtgg	gtcagcctcc	cctccaccac	ttccttccct	gtccctggat	2800



ttcagggact tgggtgggcct cccgttgacc ctatgtagct gctataaagt 2850  
 taagtgtccc tcaggcaggg agaggggtca cagagtctcc tctgtacgtg 2900  
 gccatggcca gacaccccag tcccttcacc accacctgct ccccacgcca 2950  
 ccaccatttg ggtggctgtt tttaaaaagt aaagttotta gaggatcata 3000  
 ggtctggaca ctccatcctt gccaaacctc tacccaaaag tggccttaag 3050  
 caccggaatg ccaattaact agagacctc cagcccccaa ggggaggatt 3100  
 tgggcagaac ctgaggtttt gccatccaca atccctccta cagggcctgg 3150  
 ctcacaaaaa gagtgcaca aatgcttcta ttccatagct acggcattgc 3200  
 tcagtaagtt gaggtcaaaa ataaaggaat catacatctc 3240

<210> 183  
 <211> 713  
 <212> PRT  
 <213> Homo sapiens

<400> 183  
 Met Leu Leu Ala Thr Leu Leu Leu Leu Leu Leu Gly Gly Ala Leu  
 1 5 10 15  
 Ala His Pro Asp Arg Ile Ile Phe Pro Asn His Ala Cys Glu Asp  
 20 25 30  
 Pro Pro Ala Val Leu Leu Glu Val Gln Gly Thr Leu Gln Arg Pro  
 35 40 45  
 Leu Val Arg Asp Ser Arg Thr Ser Pro Ala Asn Cys Thr Trp Leu  
 50 55 60  
 Ile Leu Gly Ser Lys Glu Gln Thr Val Thr Ile Arg Phe Gln Lys  
 65 70 75  
 Leu His Leu Ala Cys Gly Ser Glu Arg Leu Thr Leu Arg Ser Pro  
 80 85 90  
 Leu Gln Pro Leu Ile Ser Leu Cys Glu Ala Pro Pro Ser Pro Leu  
 95 100 105  
 Gln Leu Pro Gly Gly Asn Val Thr Ile Thr Tyr Ser Tyr Ala Gly  
 110 115 120  
 Ala Arg Ala Pro Met Gly Gln Gly Phe Leu Leu Ser Tyr Ser Gln  
 125 130 135  
 Asp Trp Leu Met Cys Leu Gln Glu Glu Phe Gln Cys Leu Asn His  
 140 145 150  
 Arg Cys Val Ser Ala Val Gln Arg Cys Asp Gly Val Asp Ala Cys  
 155 160 165  
 Gly Asp Gly Ser Asp Glu Ala Gly Cys Ser Ser Asp Pro Phe Pro



				170					175					180
Gly	Leu	Thr	Pro	Arg 185	Pro	Val	Pro	Ser	Leu 190	Pro	Cys	Asn	Val	Thr 195
Leu	Glu	Asp	Phe	Tyr 200	Gly	Val	Phe	Ser	Ser 205	Pro	Gly	Tyr	Thr	His 210
Leu	Ala	Ser	Val	Ser 215	His	Pro	Gln	Ser	Cys 220	His	Trp	Leu	Leu	Asp 225
Pro	His	Asp	Gly	Arg 230	Arg	Leu	Ala	Val	Arg 235	Phe	Thr	Ala	Leu	Asp 240
Leu	Gly	Phe	Gly	Asp 245	Ala	Val	His	Val	Tyr 250	Asp	Gly	Pro	Gly	Pro 255
Pro	Glu	Ser	Ser	Arg 260	Leu	Leu	Arg	Ser	Leu 265	Thr	His	Phe	Ser	Asn 270
Gly	Lys	Ala	Val	Thr 275	Val	Glu	Thr	Leu	Ser 280	Gly	Gln	Ala	Val	Val 285
Ser	Tyr	His	Thr	Val 290	Ala	Trp	Ser	Asn	Gly 295	Arg	Gly	Phe	Asn	Ala 300
Thr	Tyr	His	Val	Arg 305	Gly	Tyr	Cys	Leu	Pro 310	Trp	Asp	Arg	Pro	Cys 315
Gly	Leu	Gly	Ser	Gly 320	Leu	Gly	Ala	Gly	Glu 325	Gly	Leu	Gly	Glu	Arg 330
Cys	Tyr	Ser	Glu	Ala 335	Gln	Arg	Cys	Asp	Gly 340	Ser	Trp	Asp	Cys	Ala 345
Asp	Gly	Thr	Asp	Glu 350	Glu	Asp	Cys	Pro	Gly 355	Cys	Pro	Pro	Gly	His 360
Phe	Pro	Cys	Gly	Ala 365	Ala	Gly	Thr	Ser	Gly 370	Ala	Thr	Ala	Cys	Tyr 375
Leu	Pro	Ala	Asp	Arg 380	Cys	Asn	Tyr	Gln	Thr 385	Phe	Cys	Ala	Asp	Gly 390
Ala	Asp	Glu	Arg	Arg 395	Cys	Arg	His	Cys	Gln 400	Pro	Gly	Asn	Phe	Arg 405
Cys	Arg	Asp	Glu	Lys 410	Cys	Val	Tyr	Glu	Thr 415	Trp	Val	Cys	Asp	Gly 420
Gln	Pro	Asp	Cys	Ala 425	Asp	Gly	Ser	Asp	Glu 430	Trp	Asp	Cys	Ser	Tyr 435
Val	Leu	Pro	Arg	Lys 440	Val	Ile	Thr	Ala	Ala 445	Val	Ile	Gly	Ser	Leu 450
Val	Cys	Gly	Leu	Leu 455	Leu	Val	Ile	Ala	Leu 460	Gly	Cys	Thr	Cys	Lys 465







<400> 184  
ggctgtcact gtggagacac 20

<210> 185  
<211> 18  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 185  
gcaaggtcat tacagctg 18

<210> 186  
<211> 23  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 186  
agaacatagg agcagtccca ctc 23

<210> 187  
<211> 23  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 187  
tgcctgctgc tgcacaatct cag 23

<210> 188  
<211> 45  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 188  
ggctattgct tgccttgga cagacctgt ggcttaggct ctggc 45

<210> 189  
<211> 663  
<212> DNA  
<213> Homo sapiens

<400> 189  
cgagctgggc gagaagtagg ggagggcggt gctccgccgc ggtggcggtt 50  
gctatcgctt cgcagaacct actcaggcag ccagctgaga agagttgagg 100  
gaaagtgctg ctgctgggtc tgcagacgcg atggataacg tgcagccgaa 150



aataaaacat cgcccccttct gcttcagtggt gaaaggccac gtgaagatgc 200  
tgcggtctggc actaactgtg acatctatga ccttttttat catcgacaaa 250  
gccccctgaac catatattgt tatcactgga tttgaagtca ccgttatctt 300  
atttttcata cttttatattg tactcagact tgatcgatta atgaagtgggt 350  
tattttggcc tttgcttgat attatcaact cactggtaac aacagtattc 400  
atgctcatcg tatctgtgtt ggcaactgata ccagaaacca caacattgac 450  
agttgggtgga ggggtgtttg cacttggtgac agcagtatgc tgtcttgccg 500  
acgggggccct tatttaccgg aagctttctgt tcaatcccag cggtccttac 550  
cagaaaaagc ctgtgcatga aaaaaaagaa gttttgtaat tttatattac 600  
tttttagttt gatactaagt attaaacata tttctgtatt cttccaaaaa 650  
aaaaaaaaaa aaa 663

<210> 190  
<211> 152  
<212> PRT  
<213> Homo sapiens

<400> 190  
Met Asp Asn Val Gln Pro Lys Ile Lys His Arg Pro Phe Cys Phe  
1 5 10 15  
Ser Val Lys Gly His Val Lys Met Leu Arg Leu Ala Leu Thr Val  
20 25 30  
Thr Ser Met Thr Phe Phe Ile Ile Ala Gln Ala Pro Glu Pro Tyr  
35 40 45  
Ile Val Ile Thr Gly Phe Glu Val Thr Val Ile Leu Phe Phe Ile  
50 55 60  
Leu Leu Tyr Val Leu Arg Leu Asp Arg Leu Met Lys Trp Leu Phe  
65 70 75  
Trp Pro Leu Leu Asp Ile Ile Asn Ser Leu Val Thr Thr Val Phe  
80 85 90  
Met Leu Ile Val Ser Val Leu Ala Leu Ile Pro Glu Thr Thr Thr  
95 100 105  
Leu Thr Val Gly Gly Gly Val Phe Ala Leu Val Thr Ala Val Cys  
110 115 120  
Cys Leu Ala Asp Gly Ala Leu Ile Tyr Arg Lys Leu Leu Phe Asn  
125 130 135  
Pro Ser Gly Pro Tyr Gln Lys Lys Pro Val His Glu Lys Lys Glu  
140 145 150



Val Leu

<210> 191  
<211> 495  
<212> DNA  
<213> Homo sapiens

<220>  
<221> unsure  
<222> 78, 212, 234, 487  
<223> unknown base

<400> 191  
gggcgagaag taggggaggg cgtgttccgc cgcggtggcg gttgctatcg 50  
ttttgcagaa cctactcagg cagccagntg agaagagttg agggaaagtg 100  
ctgctgctgg gtctgcagac gcgatggata acgtgcagcc gaaaataaaa 150  
catcgcccct tctgcttcag tgtgaaaggc cacgtgaaga tgctgcggt 200  
ggcactaact gngacatcta tgaccttttt tatnatcgca caagcccctg 250  
aaccatatat tgttatcact ggatttgaag tcaccgttat ottatttttc 300  
atacttttat atgtactcag acttgatcga ttaatgaagt ggttattttg 350  
gcctttgctt gatattatca actcactggt aacaacagta ttcattgtca 400  
tcgtatctgt gttggcactg ataccagaaa ccacaacatt gacagttggt 450  
ggaggggtgt ttgcacttgt gacagcagta tgctgtnttg ccgac 495

<210> 192  
<211> 25  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 192  
cgttttgcag aacctactca ggcag 25

<210> 193  
<211> 25  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 193  
cctccaccaa ctgtcaatgt tgtgg 25

<210> 194  
<211> 40



<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 194  
aaagtgctgc tgctgggtct gcagacgcga tggataacgt 40

<210> 195  
<211> 1879  
<212> DNA  
<213> Homo sapien

<400> 195  
cagccccgcg cgccggccga gtcgctgagc cgcggtgcc ggacgggacg 50  
ggacgggcta ggctgggcgc gccccccggg ccccgccgtg ggcatgggcg 100  
cactggcccc ggcgctgctg ctgcctctgc tggcccagtg gctcctgcgc 150  
gccgccccgg agctggcccc cgcgcccttc acgctgcccc tccgggtggc 200  
cgcgggccacg aaccgcgtag ttgcgcccac cccgggaccc gggacccctg 250  
ccgagcgcca cgccgacggc ttggcgctcg ccttgagacc tgcctggcg 300  
tccccgcgg ggcgcgcca cttcttggcc atggtagaca acctgcaggg 350  
ggactctggc cgcggtact acctggagat gctgatcggg accccccgc 400  
agaagctaca gattctcgtt gacactggaa gcagtaactt tgccgtggca 450  
ggaacccgc actcctacat agacacgtac tttgacacag agaggtctag 500  
cacataccgc tccaagggt ttgacgtcac agtgaagtac acacaaggaa 550  
gctggacggg cttcgttggg gaagacctcg tcaccatccc caaaggcttc 600  
aatacttctt ttcttgtcaa cattgccact atttttgaat cagagaattt 650  
ctttttgcct gggattaaat ggaatggaat acttggccta gcttatgcca 700  
cacttgccaa gccatcaagt tctctggaga ccttcttcga ctccctggtg 750  
acacaagcaa acatccccaa cgttttctcc atgcagatgt gtggagccgg 800  
cttgcccgtt gctggatctg ggaccaacgg aggtagtctt gtcttgggtg 850  
gaattgaacc aagtttgtat aaaggagaca tctgttatac ccctattaag 900  
gaagagtggg actaccagat agaaattctg aaattggaaa ttggaggcca 950  
aagccttaat ctggactgca gagagtataa cgcagacaag gccatcgtgg 1000  
acagtggcac cacgctgctg cgctgcccc agaaggtgtt tgatgcggtg 1050  
gtggaagctg tggcccgcgc atctctgatt ccagaattct ctgatggttt 1100







Gln	Ile	Leu	Val	Asp 110	Thr	Gly	Ser	Ser	Asn 115	Phe	Ala	Val	Ala	Gly 120
Thr	Pro	His	Ser	Tyr 125	Ile	Asp	Thr	Tyr	Phe 130	Asp	Thr	Glu	Arg	Ser 135
Ser	Thr	Tyr	Arg	Ser 140	Lys	Gly	Phe	Asp	Val 145	Thr	Val	Lys	Tyr	Thr 150
Gln	Gly	Ser	Trp	Thr 155	Gly	Phe	Val	Gly	Glu 160	Asp	Leu	Val	Thr	Ile 165
Pro	Lys	Gly	Phe	Asn 170	Thr	Ser	Phe	Leu	Val 175	Asn	Ile	Ala	Thr	Ile 180
Phe	Glu	Ser	Glu	Asn 185	Phe	Phe	Leu	Pro	Gly 190	Ile	Lys	Trp	Asn	Gly 195
Ile	Leu	Gly	Leu	Ala 200	Tyr	Ala	Thr	Leu	Ala 205	Lys	Pro	Ser	Ser	Ser 210
Leu	Glu	Thr	Phe	Phe 215	Asp	Ser	Leu	Val	Thr 220	Gln	Ala	Asn	Ile	Pro 225
Asn	Val	Phe	Ser	Met 230	Gln	Met	Cys	Gly	Ala 235	Gly	Leu	Pro	Val	Ala 240
Gly	Ser	Gly	Thr	Asn 245	Gly	Gly	Ser	Leu	Val 250	Leu	Gly	Gly	Ile	Glu 255
Pro	Ser	Leu	Tyr	Lys 260	Gly	Asp	Ile	Trp	Tyr 265	Thr	Pro	Ile	Lys	Glu 270
Glu	Trp	Tyr	Tyr	Gln 275	Ile	Glu	Ile	Leu	Lys 280	Leu	Glu	Ile	Gly	Gly 285
Gln	Ser	Leu	Asn	Leu 290	Asp	Cys	Arg	Glu	Tyr 295	Asn	Ala	Asp	Lys	Ala 300
Ile	Val	Asp	Ser	Gly 305	Thr	Thr	Leu	Leu	Arg 310	Leu	Pro	Gln	Lys	Val 315
Phe	Asp	Ala	Val	Val 320	Glu	Ala	Val	Ala	Arg 325	Ala	Ser	Leu	Ile	Pro 330
Glu	Phe	Ser	Asp	Gly 335	Phe	Trp	Thr	Gly	Ser 340	Gln	Leu	Ala	Cys	Trp 345
Thr	Asn	Ser	Glu	Thr 350	Pro	Trp	Ser	Tyr	Phe 355	Pro	Lys	Ile	Ser	Ile 360
Tyr	Leu	Arg	Asp	Glu 365	Asn	Ser	Ser	Arg	Ser 370	Phe	Arg	Ile	Thr	Ile 375
Leu	Pro	Gln	Leu	Tyr 380	Ile	Gln	Pro	Met	Met 385	Gly	Ala	Gly	Leu	Asn 390
Tyr	Glu	Cys	Tyr	Arg	Phe	Gly	Ile	Ser	Pro	Ser	Thr	Asn	Ala	Leu







<210> 200  
<211> 19  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 200  
gccttggtc gttctcttc 19

<210> 201  
<211> 18  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 201  
ggtcctgtgc ctggatgg 18

<210> 202  
<211> 22  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 202  
gacaagacta cctccgttgg tc 22

<210> 203  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 203  
tgatgcacag ttcagcacct gttg 24

<210> 204  
<211> 47  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 204  
cgctccaagg gctttgacgt cacagtgaag tacacacaag gaagctg 47

<210> 205  
<211> 1939  
<212> DNA



<213> Homo sapiens

<400> 205

cgctccgcc ttcggaggct gacgcgccc ggcccggttc caggcctgtg 50  
cagggcggat cggcagccgc ctggcggcga tccagggcgg tgcggggcct 100  
gggcgggagc cgggaggcgc ggccggcatg gaggcgctgc tgctgggcgc 150  
ggggttgctg ctgggcgctt acgtgcttgt ctactacaac ctggtgaagg 200  
ccccgccgtg cggcggcatg ggcaacctgc ggggccgcac ggccgtggtc 250  
acgggcgcca acagcggcat cggaaagatg acggcgctgg agctggcgcg 300  
ccggggagcg cgcgtggtgc tggcctgccg cagccaggag cgcggggagg 350  
cggctgcctt cgacctccgc caggagagtg ggaacaatga ggtcatcttc 400  
atggccttgg acttggccag tctggcctcg gtgcgggcct ttgccactgc 450  
ctttctgagc tctgagccac ggttgacat cctcatccac aatgccggtg 500  
tcagttcctg tggccggacc cgtgaggcgt ttaacctgct gcttcgggtg 550  
aaccatatcg gtccctttct gctgacacat ctgctgctgc cttgcctgaa 600  
ggcatgtgcc cctagccgcg tggtggtggt agcctcagct gccactgtc 650  
ggggacgtct tgacttcaaa cgctggacc gccagtgggt gggctggcgg 700  
caggagctgc gggcatatgc tgacactaag ctggctaatt tactgtttgc 750  
ccgggagctc gccaaccagc ttgaggccac tggcgtcacc tgctatgcag 800  
cccaccagg gcctgtgaac tcggagctgt tcctgcgcca tgttcctgga 850  
tggtgcgcc cacttttgcg ccattggct tggctggtgc tccgggcacc 900  
aagagggggt gccagacac ccctgtattg tgctctacaa gagggcatcg 950  
agccctcag tgggagatat ttgccaact gccatgtgga agaggtgcct 1000  
ccagctgcc gagacgaccg ggcagcccat cggctatggg aggccagcaa 1050  
gaggtggca gggcttgggc ctggggagga tgctgaacc gatgaagacc 1100  
cccagtctga ggactcagag gcccacatt ctctaagcac ccccaccct 1150  
gaggagcca cagttttctc accttacct agccctcaga gtcaccaga 1200  
tttgtctaag atgacgcacc gaattcaggc taaagttgag cctgagatcc 1250  
agctctccta accctcagge caggatgctt gccatggcac ttcattgtcc 1300  
ttgaaaacct cggatgtgtg tgaggccatg ccctggacac tgacgggttt 1350  
gtgatcttga cctcogtggg tactttctgg ggccccaagc tgtgccctgg 1400



acatctcttt tcctggttga aggaataatg ggtgattatt tcttcctgag 1450  
 agtgacagta accccagatg gagagatagg ggtatgctag aactgtgct 1500  
 tctcggaat ttggatgtag tattttcagg cccaccctt attgattctg 1550  
 atcagctctg gagcagaggc agggagtttg caatgtgatg cactgccaac 1600  
 attgagaatt agtgaactga tccctttgca accgtctagc taggtagtta 1650  
 aattaccccc atgttaatga agcggaaatta ggctcccagag ctaagggact 1700  
 cgcctagggc ctcacagtga gtaggaggag ggcctgggat ctgaacccaa 1750  
 gggctctgagg ccagggccga ctgccgtaag atgggtgctg agaagtgagt 1800  
 cagggcaggg cagctggtat cgaggtgccc catgggagta aggggacgcc 1850  
 ttccgggcgg atgcagggtt ggggtcatct gtatctgaag cccctcggaa 1900  
 taaagcgcgt tgaccgcca aaaaaaaaaa aaaaaaaaaa 1939

<210> 206  
 <211> 377  
 <212> PRT  
 <213> Homo sapiens

<400> 206  
 Met Glu Ala Leu Leu Leu Gly Ala Gly Leu Leu Leu Gly Ala Tyr  
 1 5 10 15  
 Val Leu Val Tyr Tyr Asn Leu Val Lys Ala Pro Pro Cys Gly Gly  
 20 25 30  
 Met Gly Asn Leu Arg Gly Arg Thr Ala Val Val Thr Gly Ala Asn  
 35 40 45  
 Ser Gly Ile Gly Lys Met Thr Ala Leu Glu Leu Ala Arg Arg Gly  
 50 55 60  
 Ala Arg Val Val Leu Ala Cys Arg Ser Gln Glu Arg Gly Glu Ala  
 65 70 75  
 Ala Ala Phe Asp Leu Arg Gln Glu Ser Gly Asn Asn Glu Val Ile  
 80 85 90  
 Phe Met Ala Leu Asp Leu Ala Ser Leu Ala Ser Val Arg Ala Phe  
 95 100 105  
 Ala Thr Ala Phe Leu Ser Ser Glu Pro Arg Leu Asp Ile Leu Ile  
 110 115 120  
 His Asn Ala Gly Ile Ser Ser Cys Gly Arg Thr Arg Glu Ala Phe  
 125 130 135  
 Asn Leu Leu Leu Arg Val Asn His Ile Gly Pro Phe Leu Leu Thr  
 140 145 150



His	Leu	Leu	Leu	Pro	Cys	Leu	Lys	Ala	Cys	Ala	Pro	Ser	Arg	Val	155	160	165
Val	Val	Val	Ala	Ser	Ala	Ala	His	Cys	Arg	Gly	Arg	Leu	Asp	Phe	170	175	180
Lys	Arg	Leu	Asp	Arg	Pro	Val	Val	Gly	Trp	Arg	Gln	Glu	Leu	Arg	185	190	195
Ala	Tyr	Ala	Asp	Thr	Lys	Leu	Ala	Asn	Val	Leu	Phe	Ala	Arg	Glu	200	205	210
Leu	Ala	Asn	Gln	Leu	Glu	Ala	Thr	Gly	Val	Thr	Cys	Tyr	Ala	Ala	215	220	225
His	Pro	Gly	Pro	Val	Asn	Ser	Glu	Leu	Phe	Leu	Arg	His	Val	Pro	230	235	240
Gly	Trp	Leu	Arg	Pro	Leu	Leu	Arg	Pro	Leu	Ala	Trp	Leu	Val	Leu	245	250	255
Arg	Ala	Pro	Arg	Gly	Gly	Ala	Gln	Thr	Pro	Leu	Tyr	Cys	Ala	Leu	260	265	270
Gln	Glu	Gly	Ile	Glu	Pro	Leu	Ser	Gly	Arg	Tyr	Phe	Ala	Asn	Cys	275	280	285
His	Val	Glu	Glu	Val	Pro	Pro	Ala	Ala	Arg	Asp	Asp	Arg	Ala	Ala	290	295	300
His	Arg	Leu	Trp	Glu	Ala	Ser	Lys	Arg	Leu	Ala	Gly	Leu	Gly	Pro	305	310	315
Gly	Glu	Asp	Ala	Glu	Pro	Asp	Glu	Asp	Pro	Gln	Ser	Glu	Asp	Ser	320	325	330
Glu	Ala	Pro	Ser	Ser	Leu	Ser	Thr	Pro	His	Pro	Glu	Glu	Pro	Thr	335	340	345
Val	Ser	Gln	Pro	Tyr	Pro	Ser	Pro	Gln	Ser	Ser	Pro	Asp	Leu	Ser	350	355	360
Lys	Met	Thr	His	Arg	Ile	Gln	Ala	Lys	Val	Glu	Pro	Glu	Ile	Gln	365	370	375

Leu Ser

<210> 207

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 207

cttcatggcc ttggacttgg ccag 24



<210> 208  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 208  
acgccagtgg cctcaagctg gttg 24

<210> 209  
<211> 45  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 209  
ctttctgagc totgagccac ggttggacat cctcatccac aatgc 45

<210> 210  
<211> 3716  
<212> DNA  
<213> Homo sapiens

<400> 210  
ggaggagaca gcctcctggg gggcaggggt tccctgcctc tgctgctcct 50  
gtcatcatg ggaggcatgg ctgaggactc cccgccccag atcctagtcc 100  
acccccagga ccagctgttc cagggccctg gccctgccag gatgagctgc 150  
caagcctcag gccagccacc tcccaccatc cgctggttgc tgaatgggca 200  
gccctgagc atggtgcccc cagaccaca ccacctcctg cctgatggga 250  
cccttctgct gctacagccc cctgcccggg gacatgccca cgatggccag 300  
gccctgtcca cagacctggg tgtctacaca tgtgaggcca gcaaccggct 350  
tggcacggca gtcagcagag gcgctcggct gtctgtggct gtctccggg 400  
aggatttcca gatccagcct cgggacatgg tggctgtggt gggtagcag 450  
tttactctgg aatgtgggcc gccctggggc caccagagc ccacagtctc 500  
atggtggaaa gatgggaaac ccctggccct ccagcccga aggcacacag 550  
tgtccggggg gtccctgctg atggcaagag cagagaagag tgacgaagg 600  
acctacatgt gtgtggccac caacagcgca ggacatagg agagccgcgc 650  
agcccgggtt tccatccagg agccccagga ctacacggag cctgtggagc 700  
ttctggctgt gcgaattcag ctggaaaatg tgacactgct gaaccggat 750



cctgcagagg	gccccaaagcc	tagaccggcg	gtgtggtcca	gctggaaggt	800
cagtggccct	gctgcgcctg	cccaatctta	cacggccttg	ttcaggaccc	850
agactgcccc	gggaggccag	ggagctccgt	gggcagagga	gctgctggcc	900
ggctggcaga	gcgcagagct	tggaggcctc	cactggggcc	aagactacga	950
gttcaaagtg	agaccatcct	ctggccgggc	tcgaggccct	gacagcaacg	1000
tgctgctcct	gaggctgccg	gaaaaagtgc	ccagtgcccc	acctcaggaa	1050
gtgactctaa	agcctggcaa	tggcactgtc	tttgtgagct	gggtcccacc	1100
acctgctgaa	aaccacaatg	gcatcatccg	tggctaccag	gtctggagcc	1150
tgggcaacac	atcactgcca	ccagccaact	ggactgtagt	tggtgagcag	1200
accagctgg	aaatcgccac	ccatatgcca	ggctcctact	gcgtgaaggt	1250
ggctgcagtc	actggtgctg	gagctgggga	gccagtaga	cctgtctgcc	1300
tccttttaga	gcaggccatg	gagcgagcca	cccaagaacc	cagtgagcat	1350
ggccctgga	ccctggagca	gctgagggct	accttgaagc	ggcctgaggt	1400
cattgccacc	tgcggtgttg	cactctggct	gctgcttctg	ggcaccgccg	1450
tgtgtatcca	ccgccggcgc	cgagctaggg	tgcacctggg	cccaggtctg	1500
tacagatata	ccagtgagga	tgccatccta	aaacacagga	tggatcacag	1550
tgactcccag	tggttggcag	acacttggcg	ttccacctct	ggctctcggg	1600
acctgagcag	cagcagcagc	ctcagcagtc	ggctgggggc	ggatgcccg	1650
gaccactag	actgtcgtcg	ctccttgctc	tcctgggact	cccgaagccc	1700
cggcgtgccc	ctgcttccag	acaccagcac	tttttatggc	tcctctatcg	1750
ctgagctgcc	ctccagtacc	ccagccaggc	caagtcccca	ggccccagct	1800
gtcaggcgcc	tcccacccca	gctggcccag	ctctccagcc	cctgttccag	1850
ctcagacagc	ctctgcagcc	gcaggggact	ctcttctccc	cgttgtctc	1900
tggcccctgc	agaggcttgg	aaggccaaaa	agaagcagga	gctgcagcat	1950
gccaacagtt	ccccactgct	ccggggcagc	cactccttgg	agctccgggc	2000
ctgtgagtta	ggaaatagag	gttccaagaa	cctttcccaa	agcccaggag	2050
ctgtgcccc	agctctgggt	gcctggcggg	ccctgggacc	gaaactcctc	2100
agctcctcaa	atgagctggg	tactcgtcat	ctccctccag	caccctctt	2150
tcctcatgaa	actcccccaa	ctcagagtca	acagaccag	cctccggtgg	2200



caccacaggc	tccctcctcc	atcctgctgc	cagcagcccc	catccccatc	2250
cttagcccct	gcagtccccc	tagccccag	gcctcttccc	tctctggccc	2300
cagcccagct	tccagtgcgc	tgtccagctc	ctcactgtca	tccctggggg	2350
aggatcaaga	cagcgtgctg	acccctgagg	aggtagccct	gtgcttgga	2400
ctcagtgagg	gtgaggagac	tcccaggaac	agcgtctctc	ccatgccaa	2450
ggctccttca	ccccccacca	cctatgggta	catcagcgtc	ccaacagcct	2500
cagagttcac	ggacatgggc	aggactggag	gaggggtggg	gcccaggggg	2550
ggagtcttgc	tgtgcccacc	tgggccctgc	ctcaccccca	ccccagcga	2600
gggctcctta	gccaatgggt	ggggctcagc	ctctgaggac	aatgccgcca	2650
gcgccagagc	cagccttgtc	agctcctccg	atggctcctt	cctcgtgat	2700
gctcactttg	cccgggccct	ggcagtggct	gtggatagct	ttggtttcgg	2750
tctagagccc	agggaggcag	actgcgtctt	catagatgcc	tcatcacctc	2800
cctccccacg	ggatgagatc	ttcctgacct	ccaacctctc	cctgcccctg	2850
tgggagtgga	ggccagactg	gttggaagac	atggaggtca	gccacaccca	2900
gcggctggga	agggggatgc	ctccctggcc	ccctgactct	cagatctctt	2950
cccagagaag	tcagctccac	tgtcgtatgc	ccaaggctgg	tgctttctct	3000
gtagattact	cctgaacogt	gtccctgaga	cttcccagac	gggaatcaga	3050
accacttctc	ctgtccaccc	acaagacctg	ggctgtggtg	tgtgggtctt	3100
ggcctgtgtt	tctctgcagc	tggggctccac	cttcccaagc	ctccagagag	3150
ttctccctcc	acgatttgtga	aaacaaatga	aaacaaaatt	agagcaaagc	3200
tgacctggag	ccctcagggg	gcaaaacatc	atctccacct	gactcctagc	3250
cactgctttc	tcctctgtgc	catccactcc	caccaccagg	ttgttttggc	3300
ctgaggagca	gccctgcctg	ctgctcttcc	cccaccatct	ggatcacagg	3350
aagtggagga	gccagagggt	cctttgtgga	ggacagcagt	ggctgctggg	3400
agagggctgt	ggaggaagga	gcttctcggg	gccccctctc	agccttacct	3450
gggcccctcc	tctagagaag	agctcaactc	tctcccaacc	tcaccatgga	3500
aagaaaataa	ttatgaatgc	cactgaggca	ctgaggccct	acctcatgcc	3550
aaacaaaggg	ttcaaggctg	ggtctagcga	ggatgctgaa	ggaagggagg	3600
tatgagaccg	taggtcaaaa	gcaccatcct	cgtactgttg	tcactatgag	3650



cttaagaaat ttgataccat aaaatggtaa aaaaaaaaaa aaaaaaaaaa 3700

aaaaaaaaaa aaaaaa 3716

<210> 211

<211> 985

<212> PRT

<213> Homo sapiens

<400> 211

Met	Gly	Gly	Met	Ala	Gln	Asp	Ser	Pro	Pro	Gln	Ile	Leu	Val	His
1				5					10					15
Pro	Gln	Asp	Gln	Leu	Phe	Gln	Gly	Pro	Gly	Pro	Ala	Arg	Met	Ser
			20						25					30
Cys	Gln	Ala	Ser	Gly	Gln	Pro	Pro	Pro	Thr	Ile	Arg	Trp	Leu	Leu
				35					40					45
Asn	Gly	Gln	Pro	Leu	Ser	Met	Val	Pro	Pro	Asp	Pro	His	His	Leu
				50					55					60
Leu	Pro	Asp	Gly	Thr	Leu	Leu	Leu	Leu	Gln	Pro	Pro	Ala	Arg	Gly
				65					70					75
His	Ala	His	Asp	Gly	Gln	Ala	Leu	Ser	Thr	Asp	Leu	Gly	Val	Tyr
				80					85					90
Thr	Cys	Glu	Ala	Ser	Asn	Arg	Leu	Gly	Thr	Ala	Val	Ser	Arg	Gly
				95					100					105
Ala	Arg	Leu	Ser	Val	Ala	Val	Leu	Arg	Glu	Asp	Phe	Gln	Ile	Gln
				110					115					120
Pro	Arg	Asp	Met	Val	Ala	Val	Val	Gly	Glu	Gln	Phe	Thr	Leu	Glu
				125					130					135
Cys	Gly	Pro	Pro	Trp	Gly	His	Pro	Glu	Pro	Thr	Val	Ser	Trp	Trp
				140					145					150
Lys	Asp	Gly	Lys	Pro	Leu	Ala	Leu	Gln	Pro	Gly	Arg	His	Thr	Val
				155					160					165
Ser	Gly	Gly	Ser	Leu	Leu	Met	Ala	Arg	Ala	Glu	Lys	Ser	Asp	Glu
				170					175					180
Gly	Thr	Tyr	Met	Cys	Val	Ala	Thr	Asn	Ser	Ala	Gly	His	Arg	Glu
				185					190					195
Ser	Arg	Ala	Ala	Arg	Val	Ser	Ile	Gln	Glu	Pro	Gln	Asp	Tyr	Thr
				200					205					210
Glu	Pro	Val	Glu	Leu	Leu	Ala	Val	Arg	Ile	Gln	Leu	Glu	Asn	Val
				215					220					225
Thr	Leu	Leu	Asn	Pro	Asp	Pro	Ala	Glu	Gly	Pro	Lys	Pro	Arg	Pro
				230					235					240







				530					535					540				
Leu	Ser	Trp	Asp	Ser 545	Arg	Ser	Pro	Gly	Val 550	Pro	Leu	Leu	Pro	Asp 555				
Thr	Ser	Thr	Phe	Tyr 560	Gly	Ser	Leu	Ile	Ala 565	Glu	Leu	Pro	Ser	Ser 570				
Thr	Pro	Ala	Arg	Pro 575	Ser	Pro	Gln	Val	Pro 580	Ala	Val	Arg	Arg	Leu 585				
Pro	Pro	Gln	Leu	Ala 590	Gln	Leu	Ser	Ser	Pro 595	Cys	Ser	Ser	Ser	Asp 600				
Ser	Leu	Cys	Ser	Arg 605	Arg	Gly	Leu	Ser	Ser 610	Pro	Arg	Leu	Ser	Leu 615				
Ala	Pro	Ala	Glu	Ala 620	Trp	Lys	Ala	Lys	Lys 625	Lys	Gln	Glu	Leu	Gln 630				
His	Ala	Asn	Ser	Ser 635	Pro	Leu	Leu	Arg	Gly 640	Ser	His	Ser	Leu	Glu 645				
Leu	Arg	Ala	Cys	Glu 650	Leu	Gly	Asn	Arg	Gly 655	Ser	Lys	Asn	Leu	Ser 660				
Gln	Ser	Pro	Gly	Ala 665	Val	Pro	Gln	Ala	Leu 670	Val	Ala	Trp	Arg	Ala 675				
Leu	Gly	Pro	Lys	Leu 680	Leu	Ser	Ser	Ser	Asn 685	Glu	Leu	Val	Thr	Arg 690				
His	Leu	Pro	Pro	Ala 695	Pro	Leu	Phe	Pro	His 700	Glu	Thr	Pro	Pro	Thr 705				
Gln	Ser	Gln	Gln	Thr 710	Gln	Pro	Pro	Val	Ala 715	Pro	Gln	Ala	Pro	Ser 720				
Ser	Ile	Leu	Leu	Pro 725	Ala	Ala	Pro	Ile	Pro 730	Ile	Leu	Ser	Pro	Cys 735				
Ser	Pro	Pro	Ser	Pro 740	Gln	Ala	Ser	Ser	Leu 745	Ser	Gly	Pro	Ser	Pro 750				
Ala	Ser	Ser	Arg	Leu 755	Ser	Ser	Ser	Ser	Leu 760	Ser	Ser	Leu	Gly	Glu 765				
Asp	Gln	Asp	Ser	Val 770	Leu	Thr	Pro	Glu	Glu 775	Val	Ala	Leu	Cys	Leu 780				
Glu	Leu	Ser	Glu	Gly 785	Glu	Glu	Thr	Pro	Arg 790	Asn	Ser	Val	Ser	Pro 795				
Met	Pro	Arg	Ala	Pro 800	Ser	Pro	Pro	Thr	Thr 805	Tyr	Gly	Tyr	Ile	Ser 810				
Val	Pro	Thr	Ala	Ser 815	Glu	Phe	Thr	Asp	Met 820	Gly	Arg	Thr	Gly	Gly 825				



Gly	Val	Gly	Pro	Lys	Gly	Gly	Val	Leu	Leu	Cys	Pro	Pro	Arg	Pro	
				830					835					840	
Cys	Leu	Thr	Pro	Thr	Pro	Ser	Glu	Gly	Ser	Leu	Ala	Asn	Gly	Trp	
				845					850					855	
Gly	Ser	Ala	Ser	Glu	Asp	Asn	Ala	Ala	Ser	Ala	Arg	Ala	Ser	Leu	
				860					865					870	
Val	Ser	Ser	Ser	Asp	Gly	Ser	Phe	Leu	Ala	Asp	Ala	His	Phe	Ala	
				875					880					885	
Arg	Ala	Leu	Ala	Val	Ala	Val	Asp	Ser	Phe	Gly	Phe	Gly	Leu	Glu	
				890					895					900	
Pro	Arg	Glu	Ala	Asp	Cys	Val	Phe	Ile	Asp	Ala	Ser	Ser	Pro	Pro	
				905					910					915	
Ser	Pro	Arg	Asp	Glu	Ile	Phe	Leu	Thr	Pro	Asn	Leu	Ser	Leu	Pro	
				920					925					930	
Leu	Trp	Glu	Trp	Arg	Pro	Asp	Trp	Leu	Glu	Asp	Met	Glu	Val	Ser	
				935					940					945	
His	Thr	Gln	Arg	Leu	Gly	Arg	Gly	Met	Pro	Pro	Trp	Pro	Pro	Asp	
				950					955					960	
Ser	Gln	Ile	Ser	Ser	Gln	Arg	Ser	Gln	Leu	His	Cys	Arg	Met	Pro	
				965					970					975	
Lys	Ala	Gly	Ala	Ser	Pro	Val	Asp	Tyr	Ser						
				980					985						

<210> 212  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 212  
 gaaggacct acatgtgtgt ggcc 24  
  
 <210> 213  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 213  
 actgaccttc cagctgagcc acac 24  
  
 <210> 214  
 <211> 50  
 <212> DNA











agagttgttc agtatgcaaa acttggaag atggaggaga aaaagaaaag 2500  
gaagaaaaaa atgtcaccca tagtctcacc agagactatc attatttcgt 2550  
tttgtgttac ttccttcacc tcttttcttc ttcacataat ttgccggtgt 2600  
tctttttaca gagcaattat cttgtatata caactttgta tcttgccttt 2650  
tccaccttat cgttccatca ctttattcca gcacttctct gtgttttaca 2700  
gaccttttta taaataaaaat gttcatcagc tgcataaaaa aaaaaaaaaa 2749

<210> 216

<211> 332

<212> PRT

<213> Homo sapiens

<400> 216

Met	Arg	Leu	Leu	Val	Leu	Leu	Trp	Gly	Cys	Leu	Leu	Leu	Pro	Gly	1	5	10	15
Tyr	Glu	Ala	Leu	Glu	Gly	Pro	Glu	Glu	Ile	Ser	Gly	Phe	Glu	Gly	20	25	30	
Asp	Thr	Val	Ser	Leu	Gln	Cys	Thr	Tyr	Arg	Glu	Glu	Leu	Arg	Asp	35	40	45	
His	Arg	Lys	Tyr	Trp	Cys	Arg	Lys	Gly	Gly	Ile	Leu	Phe	Ser	Arg	50	55	60	
Cys	Ser	Gly	Thr	Ile	Tyr	Ala	Glu	Glu	Glu	Gly	Gln	Glu	Thr	Met	65	70	75	
Lys	Gly	Arg	Val	Ser	Ile	Arg	Asp	Ser	Arg	Gln	Glu	Leu	Ser	Leu	80	85	90	
Ile	Val	Thr	Leu	Trp	Asn	Leu	Thr	Leu	Gln	Asp	Ala	Gly	Glu	Tyr	95	100	105	
Trp	Cys	Gly	Val	Glu	Lys	Arg	Gly	Pro	Asp	Glu	Ser	Leu	Leu	Ile	110	115	120	
Ser	Leu	Phe	Val	Phe	Pro	Gly	Pro	Cys	Cys	Pro	Pro	Ser	Pro	Ser	125	130	135	
Pro	Thr	Phe	Gln	Pro	Leu	Ala	Thr	Thr	Arg	Leu	Gln	Pro	Lys	Ala	140	145	150	
Lys	Ala	Gln	Gln	Thr	Gln	Pro	Pro	Gly	Leu	Thr	Ser	Pro	Gly	Leu	155	160	165	
Tyr	Pro	Ala	Ala	Thr	Thr	Ala	Lys	Gln	Gly	Lys	Thr	Gly	Ala	Glu	170	175	180	
Ala	Pro	Pro	Leu	Pro	Gly	Thr	Ser	Gln	Tyr	Gly	His	Glu	Arg	Thr	185	190	195	
Ser	Gln	Tyr	Thr	Gly	Thr	Ser	Pro	His	Pro	Ala	Thr	Ser	Pro	Pro				







<400> 219  
 ggtgcaggaa ggtgaggatc ctcttctctc gctgctctgg ccacatc 47

<210> 220  
 <211> 950  
 <212> DNA  
 <213> Homo sapiens

<400> 220  
 ttgtgactaa aagctggcct agcaggccag ggagtgcagc tgcaggcgtg 50  
 ggggtggcag gagccgcaga gccagagcag acagccgaga aacaggtgga 100  
 cagtgtgaaa gaaccagtgg tctcgctctg ttgccaggc tagagtgtac 150  
 tggcgtgatc atagctcact gcagcctcag actcctggac ttgagaaatc 200  
 ctctgcctt agcctcctgc atatctggga ctccaggggt gcactcaagc 250  
 cctgtttctt ctcttctgt gagtggacca cggaggctgg tgagctgcct 300  
 gtcattccaa agctcagctc tgagccagag tgggtggtggc tccacctctg 350  
 ccgccggcat agaagccagg agcagggtc tcagaaggcg gtggtgccca 400  
 gctgggatca tgttgttggc cctggtctgt ctgctcagct gcctgctacc 450  
 ctccagttag gccaaagctt acggtcgttg tgaactggcc agagtgtac 500  
 atgacttcgg gctggacgga taccggggat acagcctggc tgactgggtc 550  
 tgccttgctt atttcacaag cggtttcaac gcagctgctt tggactacga 600  
 ggctgatggg agcaccaaca acgggatctt ccagatcaac agccggagggt 650  
 ggtgcagcaa cctcaccccg aacgtcccca acgtgtgccg gatgtactgc 700  
 tcagatttgt tgaatcctaa tctcaaggat accgttatct gtgccatgaa 750  
 gataacccaa gagcctcagg gtctgggtta ctgggaggcc tggaggcatc 800  
 actgccaggg aaaagacctc actgaatggg tggatggctg tgacttctag 850  
 gatggacgga accatgcaca gcaggctggg aaatgtggtt tggttcctga 900  
 cctaggcttg ggaagacaag ccagcgaata aaggatggtt gaacgtgaaa 950

<210> 221  
 <211> 146  
 <212> PRT  
 <213> Homo sapiens

<400> 221  
 Met Leu Leu Ala Leu Val Cys Leu Leu Ser Cys Leu Leu Pro Ser  
 1 5 10 15  
 Ser Glu Ala Lys Leu Tyr Gly Arg Cys Glu Leu Ala Arg Val Leu  
 20 25 30



His	Asp	Phe	Gly	Leu	Asp	Gly	Tyr	Arg	Gly	Tyr	Ser	Leu	Ala	Asp
				35					40					45
Trp	Val	Cys	Leu	Ala	Tyr	Phe	Thr	Ser	Gly	Phe	Asn	Ala	Ala	Ala
				50					55					60
Leu	Asp	Tyr	Glu	Ala	Asp	Gly	Ser	Thr	Asn	Asn	Gly	Ile	Phe	Gln
				65					70					75
Ile	Asn	Ser	Arg	Arg	Trp	Cys	Ser	Asn	Leu	Thr	Pro	Asn	Val	Pro
				80					85					90
Asn	Val	Cys	Arg	Met	Tyr	Cys	Ser	Asp	Leu	Leu	Asn	Pro	Asn	Leu
				95					100					105
Lys	Asp	Thr	Val	Ile	Cys	Ala	Met	Lys	Ile	Thr	Gln	Glu	Pro	Gln
				110					115					120
Gly	Leu	Gly	Tyr	Trp	Glu	Ala	Trp	Arg	His	His	Cys	Gln	Gly	Lys
				125					130					135
Asp	Leu	Thr	Glu	Trp	Val	Asp	Gly	Cys	Asp	Phe				
				140					145					

<210> 222  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 222  
 gggatcatgt tggtggccct ggctc 24

<210> 223  
 <211> 23  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 223  
 gcaaggcaga cccagtcagc cag 23

<210> 224  
 <211> 45  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 224  
 ctgcctgcta ccctccaagt gaggccaagc tctacggctcg ttgtg 45

<210> 225



<211> 2049  
<212> DNA  
<213> Homo sapiens

<400> 225

agccgctgcc ccgggcccggg cggccgcggc ggcaccatga gtccccgctc 50  
gtgcctgcgt tcgctgcgcc tcctcgtctt cgccgtcttc tcagccgccg 100  
cgagcaactg gctgtacctg gccaaagctgt cgtcgggtggg gagcatctca 150  
gaggaggaga cgtgcgagaa actcaagggc ctgatccaga ggcaggtgca 200  
gatgtgcaag cggaacctgg aagtcattga ctccgtgcgc cgcgggtgcc 250  
agctggccat tgaggagtgc cagtaccagt tccggaaccg gcgctggaac 300  
tgctccacac tcgactcctt gcccgctctt ggcaagggtg tgacgcaagg 350  
gactcgggag gcggccttcg tgtacgccat ctcttcggca ggtgtggcct 400  
ttgcagtgcg gcgggctgac agcagtgggg agctggagaa gtgcggctgt 450  
gacaggacag tgcattgggt cagcccacag ggcttcaggt ggtcaggatg 500  
ctctgacaac atcgctacg gtgtggcctt ctccagtcg tttgtggatg 550  
tgccgggagag aagcaagggg gcctcgtcca gcagagccct catgaacctc 600  
cacaacaatg aggccggcag gaaggccatc ctgacacaca tgcgggtgga 650  
atgcaagtgc caccgggtgt caggctcctg tgaggtaaag acgtgctggc 700  
gagccgtgcc gcccttcgc cagggtgggtc acgcactgaa ggagaagtgt 750  
gatgggtgca ctgagggtga gccacgccgc gtgggtcctt ccagggcact 800  
ggtaccacgc aacgcacagt tcaagccgca cacagatgag gacctggtgt 850  
acttgagacc tagccccgac ttctgtgagc aggacatgcg cagcggcgtg 900  
ctgggcacga ggggccgcac atgcaacaag acgtccaagg ccatcgacgg 950  
ctgtgagctg ctgtgctgtg gccgcggctt ccacacggcg cagggtggagc 1000  
tggctgaacg ctgcagctgc aaattccact ggtgctgctt cgtcaagtgc 1050  
cggcagtgcc agcggctcgt ggagttgcac acgtgccgat gaccgcctgc 1100  
ctagccctgc gccggcaacc acctagtggc ccagggaagg ccgataatgt 1150  
aaacagtctc ccaccaccta cccaagaga tactggttgt attttttgtt 1200  
ctggttttgt ttttgggtcc tcatgttatt tattgccgaa accaggcagg 1250  
caacccaag ggcaccaacc agggcctccc caaagcctgg gcctttgtgg 1300  
ctgccactga ccaaaggac cttgctcgtg ccgctggctg cccgcatgtg 1350











<210> 228  
<211> 28  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 228  
tggtgggaga ctgtttaaat tatcggcc 28

<210> 229  
<211> 41  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 229  
tgcttcgtca agtgccggca gtgccagcgg ctcgtggagt t 41

<210> 230  
<211> 1355  
<212> DNA  
<213> Homo sapiens

<400> 230  
cggacgcgtg ggcggacgcg tgggcggacg cgtgggcgga cgcgtgggct 50  
gggtgcctgc atcgccatgg acaccaccag gtacagcaag tggggcggca 100  
gctccgagga ggtccccgga gggccctggg gacgctgggt gcaactggagc 150  
aggagacccc tcttcttggc cctggctgtc ctggtcacca cagtcccttg 200  
ggctgtgatt ctgagtatcc tattgtccaa ggctccacg gagcgcgcg 250  
cgctgcttga cggccacgac ctgctgagga caaacgcctc gaagcagacg 300  
gcggcgctgg gtgccctgaa ggaggaggtc ggagactgcc acagctgctg 350  
ctcggggacg caggcgcagc tgcagaccac gcgcgcggag cttggggagg 400  
cgcaggcgaa gctgatggag caggagagcg ccctgcggga actgcgtgag 450  
cgcgtgaccc agggcttggc tgaagccggc aggggccgtg aggacgtccg 500  
cactgagctg ttccggggcg tggaggccgt gaggctccag aacaactcct 550  
gcgagccgtg cccacgtcg tggctgtcct tcgagggctc ctgctacttt 600  
ttctctgtgc caaagacgac gtgggcggcg gcgcaggatc actgcgcaga 650  
tgccagcgcg cacctggtga tcgttggggg cctggatgag cagggttcc 700  
tcactcgga cagcgtggc cgtggttact ggctgggcct gagggtgtg 750











<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 234

caccgtgtga cagcgagaag gacggctgga tctgtgagaa aaggcacaac 50

<210> 235

<211> 1847

<212> DNA

<213> Homo sapiens

<400> 235

gccaggggaa gagggatgatc cgacccgggg aaggtcgctg ggcagggcga 50  
gttgggaaag cggcagcccc cgccgcccc gcagcccctt ctctcctttt 100  
ctcccacgtc ctatctgcct ctcgctggag gccaggccgt gcagcatcga 150  
agacaggagg aactggagcc tcattggccg gcccgggcg cgggcctcgg 200  
gcttaaataag gagctccggg ctctggctgg gacccgaccg ctgccggccg 250  
cgctcccgt gctcctgccg ggtgatggaa aaccccagcc cggccgccgc 300  
cctgggcaag gccctctgcg ctctcctcct ggccactctc ggcgccgccg 350  
gccagcctct tgggggagag tccatctgtt ccgccagagc cccggccaaa 400  
tacagcatca ccttcacggg caagtggagc cagacggcct tccccaagca 450  
gtacccctg ttccgcccc ctgcgcagtg gtcttcgctg ctgggggccg 500  
cgcatagctc cgactacagc atgtggagga agaaccagta cgtcagtaac 550  
gggctgcgcg actttgcgga ggcggcgag gcctgggcgc tgatgaagga 600  
gatcgaggcg gcgggggagg cgctgcagag cgtgcacgag gtgttttcgg 650  
cgcccgcctt ccccagcggc accgggcaga cgtcggcgga gctggaggtg 700  
cagcgcaggc actcgctggt ctcgtttgtg gtgcgcacg tgcccagccc 750  
cgactgggtt gtgggcgtgg acagcctgga cctgtgcgac ggggaccgtt 800  
ggcgggaaca ggcggcgctg gacctgtacc cctacgacgc cgggacggac 850  
agcggcttca ccttctcctc ccccaacttc gccaccatcc cgcaggacac 900  
ggtgaccgag ataacgtcct cctctcccag ccacccggcc aactccttct 950  
actaccgcg gctgaaggcc ctgcctcca tcgccagggt gacactgctg 1000  
cggtgcgac agagccccag ggccttcac cctcccgcc cagtcctgcc 1050  
cagcagggac aatgagattg tagacagcgc ctcagttcca gaaacgccgc 1100



```

tggactgcga ggtctccctg tggctgctct ggggactgtg cggaggccac 1150
tgtgggagggc tcgggaccaa gagcaggact cgctacgtcc ggggccagcc 1200
cgccaacaac gggagcccct gccccgagct cgaagaagag gctgagtgcg 1250
tccctgataa ctgogtctaa gaccagagcc ccgcagcccc tggggccccc 1300
cggagccatg ggggtgtcggg ggctcctgtg caggctcatg ctgcaggcgg 1350
ccgagggcac aggggggtttc gcgctgctcc tgaccgcggt gaggccgcgc 1400
cgaccatctc tgactgaag ggccctctgg tggccggcac gggcattggg 1450
aaacagcctc ctcttttccc aaccttgctt cttaggggcc cccgtgtccc 1500
gtctgctctc agcctcctcc tcctgcagga taaagtcac cccaaggctc 1550
cagctactct aaattatgtc tccttataag ttattgctgc tccaggagat 1600
tgtcttcat cgtccagggg cctggctccc acgtggttgc agatacctca 1650
gacctggtgc tctaggctgt gctgagccca ctctcccgag ggcgcatcca 1700
agcggggggcc acttgagaag tgaataaatg gggcggtttc ggaagcgtca 1750
gtgtttccat gttatggatc tctctgcgtt tgaataaaga ctatctctgt 1800
tgctcacaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaa 1847

```

```

<210> 236
<211> 331
<212> PRT
<213> Homo sapiens

```

```

<400> 236
Met Glu Asn Pro Ser Pro Ala Ala Ala Leu Gly Lys Ala Leu Cys
 1          5          10          15
Ala Leu Leu Leu Ala Thr Leu Gly Ala Ala Gly Gln Pro Leu Gly
 20          25          30
Gly Glu Ser Ile Cys Ser Ala Arg Ala Pro Ala Lys Tyr Ser Ile
 35          40          45
Thr Phe Thr Gly Lys Trp Ser Gln Thr Ala Phe Pro Lys Gln Tyr
 50          55          60
Pro Leu Phe Arg Pro Pro Ala Gln Trp Ser Ser Leu Leu Gly Ala
 65          70          75
Ala His Ser Ser Asp Tyr Ser Met Trp Arg Lys Asn Gln Tyr Val
 80          85          90
Ser Asn Gly Leu Arg Asp Phe Ala Glu Arg Gly Glu Ala Trp Ala
 95          100         105
Leu Met Lys Glu Ile Glu Ala Ala Gly Glu Ala Leu Gln Ser Val

```



				110					115					120
His	Glu	Val	Phe	Ser 125	Ala	Pro	Ala	Val	Pro 130	Ser	Gly	Thr	Gly	Gln 135
Thr	Ser	Ala	Glu	Leu 140	Glu	Val	Gln	Arg	Arg 145	His	Ser	Leu	Val	Ser 150
Phe	Val	Val	Arg	Ile 155	Val	Pro	Ser	Pro	Asp 160	Trp	Phe	Val	Gly	Val 165
Asp	Ser	Leu	Asp	Leu 170	Cys	Asp	Gly	Asp	Arg 175	Trp	Arg	Glu	Gln	Ala 180
Ala	Leu	Asp	Leu	Tyr 185	Pro	Tyr	Asp	Ala	Gly 190	Thr	Asp	Ser	Gly	Phe 195
Thr	Phe	Ser	Ser	Pro 200	Asn	Phe	Ala	Thr	Ile 205	Pro	Gln	Asp	Thr	Val 210
Thr	Glu	Ile	Thr	Ser 215	Ser	Ser	Pro	Ser	His 220	Pro	Ala	Asn	Ser	Phe 225
Tyr	Tyr	Pro	Arg	Leu 230	Lys	Ala	Leu	Pro	Pro 235	Ile	Ala	Arg	Val	Thr 240
Leu	Leu	Arg	Leu	Arg 245	Gln	Ser	Pro	Arg	Ala 250	Phe	Ile	Pro	Pro	Ala 255
Pro	Val	Leu	Pro	Ser 260	Arg	Asp	Asn	Glu	Ile 265	Val	Asp	Ser	Ala	Ser 270
Val	Pro	Glu	Thr	Pro 275	Leu	Asp	Cys	Glu	Val 280	Ser	Leu	Trp	Ser	Ser 285
Trp	Gly	Leu	Cys	Gly 290	Gly	His	Cys	Gly	Arg 295	Leu	Gly	Thr	Lys	Ser 300
Arg	Thr	Arg	Tyr	Val 305	Arg	Val	Gln	Pro	Ala 310	Asn	Asn	Gly	Ser	Pro 315
Cys	Pro	Glu	Leu	Glu 320	Glu	Glu	Ala	Glu	Cys 325	Val	Pro	Asp	Asn	Cys 330

Val

<210> 237

<211> 22

<212> DNA

<213> Artificial Sequence

 $\langle 220 \rangle$ 

<223> Synthetic oligonucleotide probe

<400> 237

cagcactgcc agggggaagag gg 22



<210> 238  
 <211> 18  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 238  
 caggactcgc tacgtccg 18  
  
 <210> 239  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 239  
 cagccccttc tcctcctttc tccc 24  
  
 <210> 240  
 <211> 25  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 240  
 gcagttatca gggacgcact cagcc 25  
  
 <210> 241  
 <211> 18  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 241  
 ccagcgagag gcagatag 18  
  
 <210> 242  
 <211> 23  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 242  
 cggtcaccgt gtccctgcggg atg 23  
  
 <210> 243  
 <211> 42  
 <212> DNA



<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 243

cagccccttc tctcctttc tcccacgtcc tatctgcctc tc 42

<210> 244

<211> 1894

<212> DNA

<213> Homo sapiens

<400> 244

ggcggcgtcc gtgaggggct cctttgggca ggggtagtgt ttggtgtccc 50  
tgtcttgcgt gatattgaca aactgaagct ttctgcacc actggactta 100  
aggaagagtg tactcgtagg cggacagctt tagtggccgg ccggccgctc 150  
tcatcccccg taaggagcag agtcctttgt actgaccaag atgagcaaca 200  
tctacatcca ggagcctccc acgaatggga aggttttatt gaaaactaca 250  
gctggagata ttgacataga gttgtggtcc aaagaagctc cttaaagcttg 300  
cagaaatttt atccaacttt gtttgggaagc ttattatgac aataccattt 350  
ttcatagagt tgtgcctggt ttcatagtcc aaggcggaga tcctactggc 400  
acagggagtg gtggagagtc tatctatgga gcgccattca aagatgaatt 450  
tcattcacgg ttgcgtttta atcggagagg actggttgcc atggcaaatg 500  
ctggttctca tgataatggc agccagtttt tcttcacact gggtcgagca 550  
gatgaactta acaataagca taccatcttt ggaaagggtta caggggatac 600  
agtatataac atgttgcgac tgtcagaagt agacattgat gatgacgaaa 650  
gaccacataa tccacacaaa ataaaaagct gtgaggtttt gtttaatcct 700  
tttgatgaca tcattccaag ggaaattaaa aggctgaaaa aagagaaacc 750  
agaggaggaa gtaaagaaat tgaaacccaa aggcacaaaa aatttttagtt 800  
tactttcatt tggagaggaa gctgaggaag aagaggagga agtaaatcga 850  
gttagtcaga gcatgaaggg caaaagcaaa agtagtcatg acttgcttaa 900  
ggatgatcca catctcagtt ctgttccagt tgtagaaagt gaaaaagggtg 950  
atgcaccaga tttagttgat gatggagaag atgaaagtgc agagcatgat 1000  
gaatatattg atggtgatga aaagaacctg atgagagaaa gaattgccaa 1050  
aaaattaaaa aaggacacaa gtgcgaatgt taaatcagct ggagaaggag 1100







Ser His Asp Asn Gly	Ser Gln Phe Phe	Phe Thr Leu Gly Arg Ala	110	115	120
Asp Glu Leu Asn Asn Lys His Thr Ile	Phe Gly Lys Val Thr Gly		125	130	135
Asp Thr Val Tyr Asn Met Leu Arg Leu	Ser Glu Val Asp Ile Asp		140	145	150
Asp Asp Glu Arg Pro His Asn Pro His	Lys Ile Lys Ser Cys Glu		155	160	165
Val Leu Phe Asn Pro Phe Asp Asp Ile	Ile Pro Arg Glu Ile Lys		170	175	180
Arg Leu Lys Lys Glu Lys Pro Glu Glu	Glu Val Lys Lys Leu Lys		185	190	195
Pro Lys Gly Thr Lys Asn Phe Ser Leu	Leu Ser Phe Gly Glu Glu		200	205	210
Ala Glu Glu Glu Glu Glu Glu Val Asn	Arg Val Ser Gln Ser Met		215	220	225
Lys Gly Lys Ser Lys Ser Ser His Asp	Leu Leu Lys Asp Asp Pro		230	235	240
His Leu Ser Ser Val Pro Val Val Glu	Ser Glu Lys Gly Asp Ala		245	250	255
Pro Asp Leu Val Asp Asp Gly Glu Asp	Glu Ser Ala Glu His Asp		260	265	270
Glu Tyr Ile Asp Gly Asp Glu Lys Asn	Leu Met Arg Glu Arg Ile		275	280	285
Ala Lys Lys Leu Lys Lys Asp Thr Ser	Ala Asn Val Lys Ser Ala		290	295	300
Gly Glu Gly Glu Val Glu Lys Lys Ser	Val Ser Arg Ser Glu Glu		305	310	315
Leu Arg Lys Glu Ala Arg Gln Leu Lys	Arg Glu Leu Leu Ala Ala		320	325	330
Lys Gln Lys Lys Val Glu Asn Ala Ala	Lys Gln Ala Glu Lys Arg		335	340	345
Ser Glu Glu Glu Glu Ala Pro Pro Asp	Gly Ala Val Ala Glu Tyr		350	355	360
Arg Arg Glu Lys Gln Lys Tyr Glu Ala	Leu Arg Lys Gln Gln Ser		365	370	375
Lys Lys Gly Thr Ser Arg Glu Asp Gln	Thr Leu Ala Leu Leu Asn		380	385	390
Gln Phe Lys Ser Lys Leu Thr Gln Ala	Ile Ala Glu Thr Pro Glu				



	395	400	405
Asn Asp Ile Pro Glu Thr Glu Val Glu Asp Asp Glu Gly Trp Met			
	410	415	420
Ser His Val Leu Gln Phe Glu Asp Lys Ser Arg Lys Val Lys Asp			
	425	430	435
Ala Ser Met Gln Asp Ser Asp Thr Phe Glu Ile Tyr Asp Pro Arg			
	440	445	450
Asn Pro Val Asn Lys Arg Arg Arg Glu Glu Ser Lys Lys Leu Met			
	455	460	465
Arg Glu Lys Lys Glu Arg Arg			
	470		

<210> 246

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 246

tgcgagatc ctactggcac aggg 24

<210> 247

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 247

cgagttagtc agagcatg 18

<210> 248

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 248

cagatggtgc tggtgccg 18

<210> 249

<211> 29

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe



<400> 249  
caactggaac aggaactgag atgtggatc 29

<210> 250

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 250

ctggttcagc agtgcaaggg tctg 24

<210> 251

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 251

cctctccgat taaaacgc 18

<210> 252

<211> 45

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 252

gagaggactg gttgccatgg caaatgctgg ttctcatgat aatgg 45

<210> 253

<211> 2456

<212> DNA

<213> Homo sapiens

<400> 253

cgccgccggt ggggctggaa gttcccgcca ggtccgtgcc gggcgagaga 50

gatgctgccc ggcccgcctc ggctttgagg cgagagaagt gtcccagacc 100

catttcgcct tgctgacggc gtcgagccct ggccagacat gtccacaggg 150

ttctccttcg ggtccgggac tctgggctcc accaccgtgg ccgccggcgg 200

gaccagcaca ggcggcggtt tctccttcgg aacgggaacg tctagcaacc 250

cttctgtggg gctcaatctt ggaaatcttg gaagtacttc aactccagca 300

actacatctg ctccctcaag tggttttgga accgggctct ttggatctaa 350

acctgccact gggttcactc taggaggaac aaatacaggt gccttgca 400



ccaagaggcc	tcaagtgtc	accaaata	gaaccctgca	aggaaaacag	450
atgcatgtgg	ggaagacacc	catccaagtc	tttttaggag	tccccctctc	500
cagacctoct	ctaggtatcc	tcaggtttgc	acctccagaa	cccccgagc	550
cctggaaagg	aatcagagat	gctaccacct	acccgcctgg	atggagtctc	600
gctctgtcgc	caggctggag	tgcagtggca	cgatctcggc	tcactgcaac	650
ctccgcctcc	cgggttcaag	cgagtctcct	gcctcagcct	ctgagtgtct	700
ggggctacag	gtgcctgcag	gagtcctggg	gccagctggc	ctcgatgtac	750
gtcagcacgc	gggaacggta	caagtggctg	cgcttcagcg	aggactgtct	800
gtacctgaac	gtgtacgcgc	cggcgcgcgc	gcccggggat	ccccagctgc	850
cagtgatggg	ctgggtcccc	ggaggcgcct	tcatcgtggg	cgctgcttct	900
tcgtacgagg	gctctgactt	ggccgcccgc	gagaaagtgg	tgctggtgtt	950
tctgcagcac	aggctcggca	tcttcggctt	cctgagcacg	gacgacagcc	1000
acgcgcgcgg	gaactggggg	ctgctggacc	agatggcggc	tctgcgctgg	1050
gtgcaggaga	acatcgcagc	cttcggggga	gaccagga	atgtgacct	1100
gttcggccag	tcggcggggg	ccatgagcat	ctcaggactg	atgatgtcac	1150
ccctagcctc	gggtctcttc	catcggggca	tttcccagag	tggcaccgcg	1200
ttattcagac	ttttcatcac	tagtaacc	ctgaaagtgg	ccaagaaggt	1250
tgcccacctg	gctggatgca	accacaacag	cacacagatc	ctggtaaact	1300
gcctgagggc	actatcaggg	accaaggtga	tgcgtgtgtc	caacaagatg	1350
agattcctcc	aactgaactt	ccagagagac	ccggaagaga	ttatctggtc	1400
catgagccct	gtggtggatg	gtgtggtgat	cccagatgac	cctttggtgc	1450
tcctgaccca	ggggaagggt	tcattctgtc	cctaccttct	aggtgtcaac	1500
aaactggaat	tcaattggct	cttgcccttat	aatatcacca	aggagcaggt	1550
accacttgtg	gtggaggagt	acctggacaa	tgtcaatgag	catgactgga	1600
agatgctacg	aaaccgtatg	atggacatag	ttcaagatgc	cactttcgtg	1650
tatgccacac	tgcagactgc	tcactaccac	cgagaaaccc	caatgatggg	1700
aatctgccct	gctggccacg	ctacaacaag	gatgaaaagt	acctgcagct	1750
ggattttacc	acaagagtgg	gcatgaagct	caaggagaag	aagatggctt	1800
tttggatgag	tctgtaccag	tctcaaagac	ctgagaagca	gaggcaattc	1850



```

taaggggtggc tatgcaggaa ggagccaaag agggggtttgc cccaccatc 1900
caggccctgg ggagactagc catggacata cctggggaca agagttctac 1950
ccaccccagt ttagaactgc aggagctccc tgctgcctcc aggccaaagc 2000
tagagctttt gcctgttggtg tgggacctgc actgcccttt ccagcctgac 2050
atcccatgat gccctctac ttcaactgtt acatccagtt aggccaggcc 2100
ctgtcaacac cacactgtgc tcagctctcc agcctcagga caacctcttt 2150
ttttcccttc ttcaaactct cccacccttc aatgtctcct tgtgactcct 2200
tcttatggga ggtcgacca gactgccact gccctgtca ctgcaccag 2250
cttggcattt accatccatc ctgctcaacc ttgttcctgt ctgttcacat 2300
tggcctggag gcctagggca ggttgtaga tggagcaaac ttttgtagt 2350
ttgggatctt ctctccacc cacacttata tccccaggg ccactccaaa 2400
gtctatacac aggggtggtc tcttcaataa agaagtgttg attagaaaaa 2450
aaaaaa 2456

```

<210> 254

<211> 545

<212> PRT

<213> Homo sapiens

<400> 254

```

Met Ser Thr Gly Phe Ser Phe Gly Ser Gly Thr Leu Gly Ser Thr
  1          5          10          15
Thr Val Ala Ala Gly Gly Thr Ser Thr Gly Gly Val Phe Ser Phe
          20          25          30
Gly Thr Gly Thr Ser Ser Asn Pro Ser Val Gly Leu Asn Phe Gly
          35          40          45
Asn Leu Gly Ser Thr Ser Thr Pro Ala Thr Thr Ser Ala Pro Ser
          50          55          60
Ser Gly Phe Gly Thr Gly Leu Phe Gly Ser Lys Pro Ala Thr Gly
          65          70          75
Phe Thr Leu Gly Gly Thr Asn Thr Gly Ala Leu His Thr Lys Arg
          80          85          90
Pro Gln Val Val Thr Lys Tyr Gly Thr Leu Gln Gly Lys Gln Met
          95          100          105
His Val Gly Lys Thr Pro Ile Gln Val Phe Leu Gly Val Pro Phe
          110          115          120
Ser Arg Pro Pro Leu Gly Ile Leu Arg Phe Ala Pro Pro Glu Pro
          125          130          135

```



1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30  
31  
32  
33  
34  
35  
36  
37  
38  
39  
40  
41  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60  
61  
62  
63  
64  
65  
66  
67  
68  
69  
70  
71  
72  
73  
74  
75  
76  
77  
78  
79  
80  
81  
82  
83  
84  
85  
86  
87  
88  
89  
90  
91  
92  
93  
94  
95  
96  
97  
98  
99  
100

Pro	Glu	Pro	Trp	Lys	Gly	Ile	Arg	Asp	Ala	Thr	Thr	Tyr	Pro	Pro	
				140					145					150	
Gly	Trp	Ser	Leu	Ala	Leu	Ser	Pro	Gly	Trp	Ser	Ala	Val	Ala	Arg	
				155					160					165	
Ser	Arg	Leu	Thr	Ala	Thr	Ser	Ala	Ser	Arg	Val	Gln	Ala	Ser	Leu	
				170					175					180	
Leu	Pro	Gln	Pro	Leu	Ser	Val	Trp	Gly	Tyr	Arg	Cys	Leu	Gln	Glu	
				185					190					195	
Ser	Trp	Gly	Gln	Leu	Ala	Ser	Met	Tyr	Val	Ser	Thr	Arg	Glu	Arg	
				200					205					210	
Tyr	Lys	Trp	Leu	Arg	Phe	Ser	Glu	Asp	Cys	Leu	Tyr	Leu	Asn	Val	
				215					220					225	
Tyr	Ala	Pro	Ala	Arg	Ala	Pro	Gly	Asp	Pro	Gln	Leu	Pro	Val	Met	
				230					235					240	
Val	Trp	Phe	Pro	Gly	Gly	Ala	Phe	Ile	Val	Gly	Ala	Ala	Ser	Ser	
				245					250					255	
Tyr	Glu	Gly	Ser	Asp	Leu	Ala	Ala	Arg	Glu	Lys	Val	Val	Leu	Val	
				260					265					270	
Phe	Leu	Gln	His	Arg	Leu	Gly	Ile	Phe	Gly	Phe	Leu	Ser	Thr	Asp	
				275					280					285	
Asp	Ser	His	Ala	Arg	Gly	Asn	Trp	Gly	Leu	Leu	Asp	Gln	Met	Ala	
				290					295					300	
Ala	Leu	Arg	Trp	Val	Gln	Glu	Asn	Ile	Ala	Ala	Phe	Gly	Gly	Asp	
				305					310					315	
Pro	Gly	Asn	Val	Thr	Leu	Phe	Gly	Gln	Ser	Ala	Gly	Ala	Met	Ser	
				320					325					330	
Ile	Ser	Gly	Leu	Met	Met	Ser	Pro	Leu	Ala	Ser	Gly	Leu	Phe	His	
				335					340					345	
Arg	Ala	Ile	Ser	Gln	Ser	Gly	Thr	Ala	Leu	Phe	Arg	Leu	Phe	Ile	
				350					355					360	
Thr	Ser	Asn	Pro	Leu	Lys	Val	Ala	Lys	Lys	Val	Ala	His	Leu	Ala	
				365					370					375	
Gly	Cys	Asn	His	Asn	Ser	Thr	Gln	Ile	Leu	Val	Asn	Cys	Leu	Arg	
				380					385					390	
Ala	Leu	Ser	Gly	Thr	Lys	Val	Met	Arg	Val	Ser	Asn	Lys	Met	Arg	
				395					400					405	
Phe	Leu	Gln	Leu	Asn	Phe	Gln	Arg	Asp	Pro	Glu	Glu	Ile	Ile	Trp	
				410					415					420	
Ser	Met	Ser	Pro	Val	Val	Asp	Gly	Val	Val	Ile	Pro	Asp	Asp	Pro	



425	430	435
Leu Val Leu Leu Thr Gln Gly Lys Val	Ser Ser Val Pro Tyr Leu	
440	445	450
Leu Gly Val Asn Asn Leu Glu Phe Asn	Trp Leu Leu Pro Tyr Asn	
455	460	465
Ile Thr Lys Glu Gln Val Pro Leu Val	Val Glu Glu Tyr Leu Asp	
470	475	480
Asn Val Asn Glu His Asp Trp Lys Met	Leu Arg Asn Arg Met Met	
485	490	495
Asp Ile Val Gln Asp Ala Thr Phe Val	Tyr Ala Thr Leu Gln Thr	
500	505	510
Ala His Tyr His Arg Glu Thr Pro Met	Met Gly Ile Cys Pro Ala	
515	520	525
Gly His Ala Thr Thr Arg Met Lys Ser	Thr Cys Ser Trp Ile Leu	
530	535	540
Pro Gln Glu Trp Ala		
545		

<210> 255

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 255

aggatgcctgc aggatgcctg ggg 23

<210> 256

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 256

ccacctcagg aagccgaaga tgcc 24

<210> 257

<211> 45

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 257

gaacggtaca agtggotgcy cttcagcgag gactgtctgt acctg 45



<210> 258  
<211> 2764  
<212> DNA  
<213> Homo sapiens

<400> 258

gagaacaggc ctgtctcagg caggccctgc gcctcctatg cggagatgct 50  
actgccactg ctgctgtcct cgctgctggg cgggtcccag gctatggatg 100  
ggagattctg gatacgagtg caggagtcag tgatgggtgcc ggagggcctg 150  
tgcatctctg tgccctgctc tttctcctac ccccgacaag actggacagg 200  
gtctacccca gcttatggct actggttcaa agcagtgact gagacaacca 250  
aggggtgctcc tgtggccaca aaccaccaga gtcgagaggt ggaaatgagc 300  
acccggggcc gattccagct cactggggat cccgccaagg ggaactgctc 350  
cttggtgatc agagacgcgc agatgcagga tgagtcacag tacttctttc 400  
gggtggagag aggaagctat gtgacatata atttcatgaa cgatgggttc 450  
tttctaaaag taacagtgtc cagcttcaag cccagacccc aggaccacaa 500  
caccgacctc acctgccatg tggacttctc cagaaagggg gtgagcgcac 550  
agaggaccgt ccgactccgt gtggcctatg ccccagaga ccttgttatc 600  
agcatttcac gtgacaacac gccagccctg gagccccagc cccagggaaa 650  
tgccccatac ctggaagccc aaaaaggcca gttcctgcgg ctccctctgtg 700  
ctgctgacag ccagccccct gccacactga gctgggtcct gcagaacaga 750  
gtcctctcct cgtcccatcc ctggggccct agaccctgg ggctggagct 800  
gcccgggggtg aaggctgggg attcagggcg ctacacctgc cgagcggaga 850  
acaggcttgg ctcccagcag cgagccctgg acctctctgt gcagtatcct 900  
ccagagaacc tgagagtgat ggtttcccaa gcaaacagga cagtcctgga 950  
aaaccttggg aacggcacgt ctctoccagt actggagggc caaagcctgt 1000  
gcctggtctg tgtcacacac agcagcccc cagccaggct gagctggacc 1050  
cagaggggac aggttctgag cccctcccag ccctcagacc ccggggtcct 1100  
ggagctgcct cgggttcaag tggagcacga aggagagttc acctgccacg 1150  
ctcggcaccc actgggctcc cagcacgtct ctctcagcct ctccgtgcac 1200  
tataagaagg gactcatctc aacggcattc tccaacggag cgtttctggg 1250  
aatcggcac caggctcttc ttttctctg cctggccctg atcatcatga 1300







tcaccttaaa aaaa 2764

<210> 259

<211> 544

<212> PRT

<213> Homo sapiens

<400> 259

Met	Leu	Leu	Pro	Leu	Leu	Leu	Ser	Ser	Leu	Leu	Gly	Gly	Ser	Gln
1				5					10					15
Ala	Met	Asp	Gly	Arg	Phe	Trp	Ile	Arg	Val	Gln	Glu	Ser	Val	Met
				20					25					30
Val	Pro	Glu	Gly	Leu	Cys	Ile	Ser	Val	Pro	Cys	Ser	Phe	Ser	Tyr
				35					40					45
Pro	Arg	Gln	Asp	Trp	Thr	Gly	Ser	Thr	Pro	Ala	Tyr	Gly	Tyr	Trp
				50					55					60
Phe	Lys	Ala	Val	Thr	Glu	Thr	Thr	Lys	Gly	Ala	Pro	Val	Ala	Thr
				65					70					75
Asn	His	Gln	Ser	Arg	Glu	Val	Glu	Met	Ser	Thr	Arg	Gly	Arg	Phe
				80					85					90
Gln	Leu	Thr	Gly	Asp	Pro	Ala	Lys	Gly	Asn	Cys	Ser	Leu	Val	Ile
				95					100					105
Arg	Asp	Ala	Gln	Met	Gln	Asp	Glu	Ser	Gln	Tyr	Phe	Phe	Arg	Val
				110					115					120
Glu	Arg	Gly	Ser	Tyr	Val	Thr	Tyr	Asn	Phe	Met	Asn	Asp	Gly	Phe
				125					130					135
Phe	Leu	Lys	Val	Thr	Val	Leu	Ser	Phe	Thr	Pro	Arg	Pro	Gln	Asp
				140					145					150
His	Asn	Thr	Asp	Leu	Thr	Cys	His	Val	Asp	Phe	Ser	Arg	Lys	Gly
				155					160					165
Val	Ser	Ala	Gln	Arg	Thr	Val	Arg	Leu	Arg	Val	Ala	Tyr	Ala	Pro
				170					175					180
Arg	Asp	Leu	Val	Ile	Ser	Ile	Ser	Arg	Asp	Asn	Thr	Pro	Ala	Leu
				185					190					195
Glu	Pro	Gln	Pro	Gln	Gly	Asn	Val	Pro	Tyr	Leu	Glu	Ala	Gln	Lys
				200					205					210
Gly	Gln	Phe	Leu	Arg	Leu	Leu	Cys	Ala	Ala	Asp	Ser	Gln	Pro	Pro
				215					220					225
Ala	Thr	Leu	Ser	Trp	Val	Leu	Gln	Asn	Arg	Val	Leu	Ser	Ser	Ser
				230					235					240
His	Pro	Trp	Gly	Pro	Arg	Pro	Leu	Gly	Leu	Glu	Leu	Pro	Gly	Val
				245					250					255



[illegible]







tcggatatca	atgacaatga	accaaaaattc	ctagatgaac	cttatgaggc	500
cattgtacca	gagatgtctc	cagaaggaac	attagttatc	caggtgacag	550
caagtgatgc	tgacgatccc	tcaagtggta	ataatgctcg	tctcctctac	600
agcttacttc	aaggccagcc	atatttttct	gttgaaccaa	caacaggagt	650
cataagaata	tcttctaaaa	tggatagaga	actgcaagat	gagtattggg	700
taatcattca	agccaaggac	atgattggtc	agccaggagc	gttgtctgga	750
acaacaagtg	tattaattaa	actttcagat	gttaatgaca	ataagcctat	800
atttaaagaa	agttttatacc	gcttgactgt	ctctgaatct	gcacccactg	850
ggacttctat	aggaacaatc	atggcatatg	ataatgacat	aggagagaat	900
gcagaaatgg	attacagcat	tgaagaggat	gattcgcaaa	catttgacat	950
tattactaat	catgaaactc	aagaaggaat	agttatatta	aaaaagaaag	1000
tggattttga	gcaccagaac	cactacggta	ttagagcaaa	agttaaaaaac	1050
catcatgttc	ctgagcagct	catgaagtac	cacactgagg	cttccaccac	1100
tttcattaag	atccaggtgg	aagatgttga	tgagcctcct	cttttcctcc	1150
ttccatatta	tgtatttgaa	gtttttgaag	aaaccccaca	gggatcattt	1200
gtaggcgtgg	tgtctgccac	agaccagac	aataggaaat	ctcctatcag	1250
gtattctatt	actaggagca	aagtgttcaa	tatcaatgat	aatggtacaa	1300
tcactacaag	taactcactg	gatcgtgaaa	tcagtgcttg	gtacaaccta	1350
agtattacag	ccacagaaaa	atacaatata	gaacagatct	cttcgatccc	1400
actgtatgtg	caagttctta	acatcaatga	tcatgctcct	gagttctctc	1450
aatactatga	gacttatgtt	tgtgaaaatg	caggctctgg	tcaggtaatt	1500
cagactatca	gtgcagtgga	tagagatgaa	tccatagaag	agcaccattt	1550
ttactttaat	ctatctgtag	aagacactaa	caattcaagt	tttacaatca	1600
tagataatca	agataacaca	gctgtcattt	tgactaatag	aactggtttt	1650
aaccttcaag	aagaacctgt	cttctacatc	tccatcttaa	ttgccgacaa	1700
tggaatcccg	tcacttacia	gtacaaacac	ccttaccatc	catgtctgtg	1750
actgtggtga	cagtgggagc	acacagacct	gccagtacca	ggagcttgtg	1800
ctttccatgg	gattcaagac	agaagttatc	attgctattc	tcatttgcat	1850
tatgatcata	tttggtttta	tttttttgac	tttggtttta	aaacaacgga	1900







His	His	Ile	Gly	Gln 65	Leu	Arg	Ser	Asp	Leu 70	Asp	Asn	Gly	Asn	Asn 75
Ser	Phe	Gln	Tyr	Lys 80	Leu	Leu	Gly	Ala	Gly 85	Ala	Gly	Ser	Thr	Phe 90
Ile	Ile	Asp	Glu	Arg 95	Thr	Gly	Asp	Ile	Tyr 100	Ala	Ile	Gln	Lys	Leu 105
Asp	Arg	Glu	Glu	Arg 110	Ser	Leu	Tyr	Ile	Leu 115	Arg	Ala	Gln	Val	Ile 120
Asp	Ile	Ala	Thr	Gly 125	Arg	Ala	Val	Glu	Pro 130	Glu	Ser	Glu	Phe	Val 135
Ile	Lys	Val	Ser	Asp 140	Ile	Asn	Asp	Asn	Glu 145	Pro	Lys	Phe	Leu	Asp 150
Glu	Pro	Tyr	Glu	Ala 155	Ile	Val	Pro	Glu	Met 160	Ser	Pro	Glu	Gly	Thr 165
Leu	Val	Ile	Gln	Val 170	Thr	Ala	Ser	Asp	Ala 175	Asp	Asp	Pro	Ser	Ser 180
Gly	Asn	Asn	Ala	Arg 185	Leu	Leu	Tyr	Ser	Leu 190	Leu	Gln	Gly	Gln	Pro 195
Tyr	Phe	Ser	Val	Glu 200	Pro	Thr	Thr	Gly	Val 205	Ile	Arg	Ile	Ser	Ser 210
Lys	Met	Asp	Arg	Glu 215	Leu	Gln	Asp	Glu	Tyr 220	Trp	Val	Ile	Ile	Gln 225
Ala	Lys	Asp	Met	Ile 230	Gly	Gln	Pro	Gly	Ala 235	Leu	Ser	Gly	Thr	Thr 240
Ser	Val	Leu	Ile	Lys 245	Leu	Ser	Asp	Val	Asn 250	Asp	Asn	Lys	Pro	Ile 255
Phe	Lys	Glu	Ser	Leu 260	Tyr	Arg	Leu	Thr	Val 265	Ser	Glu	Ser	Ala	Pro 270
Thr	Gly	Thr	Ser	Ile 275	Gly	Thr	Ile	Met	Ala 280	Tyr	Asp	Asn	Asp	Ile 285
Gly	Glu	Asn	Ala	Glu 290	Met	Asp	Tyr	Ser	Ile 295	Glu	Glu	Asp	Asp	Ser 300
Gln	Thr	Phe	Asp	Ile 305	Ile	Thr	Asn	His	Glu 310	Thr	Gln	Glu	Gly	Ile 315
Val	Ile	Leu	Lys	Lys 320	Lys	Val	Asp	Phe	Glu 325	His	Gln	Asn	His	Tyr 330
Gly	Ile	Arg	Ala	Lys 335	Val	Lys	Asn	His	His 340	Val	Pro	Glu	Gln	Leu 345
Met	Lys	Tyr	His	Thr	Glu	Ala	Ser	Thr	Thr	Phe	Ile	Lys	Ile	Gln



				350					355					360
Val	Glu	Asp	Val	Asp 365	Glu	Pro	Pro	Leu	Phe 370	Leu	Leu	Pro	Tyr	Tyr 375
Val	Phe	Glu	Val	Phe 380	Glu	Glu	Thr	Pro	Gln 385	Gly	Ser	Phe	Val	Gly 390
Val	Val	Ser	Ala	Thr 395	Asp	Pro	Asp	Asn	Arg 400	Lys	Ser	Pro	Ile	Arg 405
Tyr	Ser	Ile	Thr	Arg 410	Ser	Lys	Val	Phe	Asn 415	Ile	Asn	Asp	Asn	Gly 420
Thr	Ile	Thr	Thr	Ser 425	Asn	Ser	Leu	Asp	Arg 430	Glu	Ile	Ser	Ala	Trp 435
Tyr	Asn	Leu	Ser	Ile 440	Thr	Ala	Thr	Glu	Lys 445	Tyr	Asn	Ile	Glu	Gln 450
Ile	Ser	Ser	Ile	Pro 455	Leu	Tyr	Val	Gln	Val 460	Leu	Asn	Ile	Asn	Asp 465
His	Ala	Pro	Glu	Phe 470	Ser	Gln	Tyr	Tyr	Glu 475	Thr	Tyr	Val	Cys	Glu 480
Asn	Ala	Gly	Ser	Gly 485	Gln	Val	Ile	Gln	Thr 490	Ile	Ser	Ala	Val	Asp 495
Arg	Asp	Glu	Ser	Ile 500	Glu	Glu	His	His	Phe 505	Tyr	Phe	Asn	Leu	Ser 510
Val	Glu	Asp	Thr	Asn 515	Asn	Ser	Ser	Phe	Thr 520	Ile	Ile	Asp	Asn	Gln 525
Asp	Asn	Thr	Ala	Val 530	Ile	Leu	Thr	Asn	Arg 535	Thr	Gly	Phe	Asn	Leu 540
Gln	Glu	Glu	Pro	Val 545	Phe	Tyr	Ile	Ser	Ile 550	Leu	Ile	Ala	Asp	Asn 555
Gly	Ile	Pro	Ser	Leu 560	Thr	Ser	Thr	Asn	Thr 565	Leu	Thr	Ile	His	Val 570
Cys	Asp	Cys	Gly	Asp 575	Ser	Gly	Ser	Thr	Gln 580	Thr	Cys	Gln	Tyr	Gln 585
Glu	Leu	Val	Leu	Ser 590	Met	Gly	Phe	Lys	Thr 595	Glu	Val	Ile	Ile	Ala 600
Ile	Leu	Ile	Cys	Ile 605	Met	Ile	Ile	Phe	Gly 610	Phe	Ile	Phe	Leu	Thr 615
Leu	Gly	Leu	Lys	Gln 620	Arg	Arg	Lys	Gln	Ile 625	Leu	Phe	Pro	Glu	Lys 630
Ser	Glu	Asp	Phe	Arg 635	Glu	Asn	Ile	Phe	Gln 640	Tyr	Asp	Asp	Glu	Gly 645



Gly	Gly	Glu	Glu	Asp	Thr	Glu	Ala	Phe	Asp	Ile	Ala	Glu	Leu	Arg	650	655	660
Ser	Ser	Thr	Ile	Met	Arg	Glu	Arg	Lys	Thr	Arg	Lys	Thr	Thr	Ser	665	670	675
Ala	Glu	Ile	Arg	Ser	Leu	Tyr	Arg	Gln	Ser	Leu	Gln	Val	Gly	Pro	680	685	690
Asp	Ser	Ala	Ile	Phe	Arg	Lys	Phe	Ile	Leu	Glu	Lys	Leu	Glu	Glu	695	700	705
Ala	Asn	Thr	Asp	Pro	Cys	Ala	Pro	Pro	Phe	Asp	Ser	Leu	Gln	Thr	710	715	720
Tyr	Ala	Phe	Glu	Gly	Thr	Gly	Ser	Leu	Ala	Gly	Ser	Leu	Ser	Ser	725	730	735
Leu	Glu	Ser	Ala	Val	Ser	Asp	Gln	Asp	Glu	Ser	Tyr	Asp	Tyr	Leu	740	745	750
Asn	Glu	Leu	Gly	Pro	Arg	Phe	Lys	Arg	Leu	Ala	Cys	Met	Phe	Gly	755	760	765
Ser	Ala	Val	Gln	Ser	Asn	Asn									770		

<210> 265  
 <211> 349  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> 24, 60, 141, 226, 228, 249, 252  
 <223> unknown base

<400> 265  
 atttcaaggc cagccatatt tttntgttga accaacaaca ggagtcataa 50  
 gaatatttttn taaaatggat agagaactgc aagatgagta ttgggtaatc 100  
 attcaagcca aggacatgat tggtcagcca ggagcgttgt ntggaacaac 150  
 aagtgtatta attaaacttt cagatgttaa tgacaataag cctatattta 200  
 aagaaagttt atacogcttg actgtntntg aatctgcacc cactgggant 250  
 tntataggaa caatcatggc atatgataat gacataggag agaatgcaga 300  
 aatggattac agcattgaag aggatgattc gcaaacattt gacattatt 349

<210> 266  
 <211> 25  
 <212> DNA  
 <213> Artificial Sequence

<220>



<223> Synthetic oligonucleotide probe

<400> 266

cttgactgtc tctgaatctg cacc 25

<210> 267

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 267

aagtgggtgga agcctccagt gtgg 24

<210> 268

<211> 52

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 268

ccactacggt attagagcaa aagttaaaaa ccatcatggt tcctggagca 50

gc 52

<210> 269

<211> 2747

<212> DNA

<213> Homo sapiens

<400> 269

gcaacctcag cttctagtat ccagactcca gcgcccgcgggac 50

cccaaccccg acccagagct tctccagcgg cggcgcagcg agcagggctc 100

cccgcccttaa cttcctccgc ggggccagc caccttcggg agtccgggtt 150

gcccacctgc aaactctccg cttctgcac ctgccacccc tgagccagcg 200

cgggcccccg agcgagtcag ggccaacgcg gggctgcagc tgttgggctt 250

cattctcgcc ttcctgggat ggatcggcgc catcgtcagc actgccctgc 300

cccagtggag gatttactcc tatgccggcg acaacatcgt gaccgcccag 350

gccatgtacg aggggctgtg gatgtcctgc gtgtcgcaga gcaccgggca 400

gatccagtgc aaagtctttg actccttgct gaatctgagc agcacattgc 450

aagcaacccg tgccttgatg gtggttggca tcctcctggg agtgatagca 500

atctttgtgg ccaccgttg catgaagtgt atgaagtgt tggaagacga 550

tgaggtgcag aagatgagga tggctgtcat tgggggtgcg atatttcttc 600







tttatattac tcttattctt tgaacatgaa ctatgcctat gtagtgtctt 2100  
tatttgctca gctggctgag aactgaaga agtcactgaa caaacctac 2150  
acacgtacct tcatgtgatt cactgccttc ctctctctac cagtctatctt 2200  
ccactgaaca aaacctacac acataccttc atgtggttca gtgccttcct 2250  
ctctctacca gtctatttcc actgaacaaa acctacgcac ataccttcat 2300  
gtggctcagt gccttcctct ctctaccagt ctatttccat tctttcagct 2350  
gtgtctgaca tgtttgtgct ctgttccatt ttaacaactg ctcttacttt 2400  
tccagtctgt acagaatgct atttcacttg agcaagatga tgtaatggaa 2450  
aggggtgttg cactgggtgc tggagacctg gatttgagtc ttggtgctat 2500  
caatcacctg ctgtgtttga gcaaggcatt tggctgctgt aagcttattg 2550  
cttcatctgt aagcgggtgg ttgtaattcc tgatcttccc acctcacagt 2600  
gatgttgtgg ggatccagtg agatagaata catgtaagtg tggttttgta 2650  
atttaaaaag tgctatacta agggaaagaa ttgaggaatt aactgcatac 2700  
gttttggtgt tgcttttcaa atgtttgaaa ataaaaaaaa tgттааg 2747

<210> 270  
<211> 211  
<212> PRT  
<213> Homo sapiens

<400> 270  
Met Ala Asn Ala Gly Leu Gln Leu Leu Gly Phe Ile Leu Ala Phe  
1 5 10 15  
Leu Gly Trp Ile Gly Ala Ile Val Ser Thr Ala Leu Pro Gln Trp  
20 25 30  
Arg Ile Tyr Ser Tyr Ala Gly Asp Asn Ile Val Thr Ala Gln Ala  
35 40 45  
Met Tyr Glu Gly Leu Trp Met Ser Cys Val Ser Gln Ser Thr Gly  
50 55 60  
Gln Ile Gln Cys Lys Val Phe Asp Ser Leu Leu Asn Leu Ser Ser  
65 70 75  
Thr Leu Gln Ala Thr Arg Ala Leu Met Val Val Gly Ile Leu Leu  
80 85 90  
Gly Val Ile Ala Ile Phe Val Ala Thr Val Gly Met Lys Cys Met  
95 100 105  
Lys Cys Leu Glu Asp Asp Glu Val Gln Lys Met Arg Met Ala Val  
110 115 120



Ile	Gly	Gly	Ala	Ile	Phe	Leu	Leu	Ala	Gly	Leu	Ala	Ile	Leu	Val
				125					130					135
Ala	Thr	Ala	Trp	Tyr	Gly	Asn	Arg	Ile	Val	Gln	Glu	Phe	Tyr	Asp
				140					145					150
Pro	Met	Thr	Pro	Val	Asn	Ala	Arg	Tyr	Glu	Phe	Gly	Gln	Ala	Leu
				155					160					165
Phe	Thr	Gly	Trp	Ala	Ala	Ala	Ser	Leu	Cys	Leu	Leu	Gly	Gly	Ala
				170					175					180
Leu	Leu	Cys	Cys	Ser	Cys	Pro	Arg	Lys	Thr	Thr	Ser	Tyr	Pro	Thr
				185					190					195
Pro	Arg	Pro	Tyr	Pro	Lys	Pro	Ala	Pro	Ser	Ser	Gly	Lys	Asp	Tyr
				200					205					210

Val

<210> 271  
 <211> 564  
 <212> DNA  
 <213> Homo sapiens  
 <220>  
 <221> unsure  
 <222> 21, 69, 163, 434, 436, 444  
 <223> unknown base

<400> 271  
 ttctggccaa acccggggct ncagctgttg ggcttcatct cgccttcctg 50  
 ggatggatcg gcgccatcnt cacactgccc ttcccagtg gaggatttta 100  
 ctccctatgc tggcgacaac atcgtgaccg cccagcccat gtacgagggg 150  
 ctgtggatgt ccngcgtgtc gcagagcacc gggcagatcc agtgcaaagt 200  
 ctttgactcc ttgctgaatc tgagcagcac attgcaagca acccgtgcct 250  
 tgatgggtgg ttggcatcctc ctgggagtga tagcaatctt tgtggccacc 300  
 gttggcatga agtgtatgaa gtgcttgga gacgatgagg tgcagaagat 350  
 gaggatggct gtcattgggg gcgcgatatt tcttcttgca ggtctggcta 400  
 ttttagttgc cacagcatgg tatggcaata gaancnttca acanttttat 450  
 gaccctatga cccagtcaa tgccaggtag gaatttggtc aggctctctt 500  
 cactggctgg gctgctgctt ctctctgcct tctgggaggt gccctacttt 550  
 gctgttcctg tccc 564

<210> 272  
 <211> 498



<212> DNA  
<213> Homo sapiens

<220>  
<221> unsure  
<222> 30, 49, 102, 141, 147, 171, 324-325, 339-341  
<223> unknown base

<400> 272  
acccttgacc caacgcggcc ccccgaccgn ttcattggcca aacgcgggnc 50  
tccagctggtt gggcttcatt ctcccccttc tgggatggac cggcgcccat 100  
cntcagcact gccctgcccc agtggaggat ttactcctat nccggcnaca 150  
acatcgtgac cgcccaggcc ntgtacgagg ggctgtggat gtcttgctg 200  
tcgcagagca ccgggcagat ccagtgcaca gtctttgact cccttgctga 250  
atctgagcag cacattgcaa gcaaccctg ccttgatggt gggtggcatc 300  
ctcctgggag tgatagcaat cttnttggcc accgttgtnn ntgaagtga 350  
tgaagtgctt ggaagacgat gaggtgcaga agatgaggat ggctgtcatt 400  
gggggcgcga tatttcttct tgcaggtctg gctatttttag ttgccacagc 450  
atggtatggc aatagaatcg ttcaagaatt ctatgacct atgaccga 498

<210> 273  
<211> 552  
<212> DNA  
<213> Homo sapiens

<220>  
<221> unsure  
<222> 25, 57, 67, 94-95, 116, 152, 165, 212, 233, 392-394  
<223> unknown base

<400> 273  
gggcccgcacc attatccaac cgggntcact gttggctcat ctccctcctg 50  
gatgaancgc gccatcntca gactccctgc cccatggaga tttnnccat 100  
gctggcgaca acatcntgac cccagccat gtacgagggg ctttgaacgt 150  
cngcgtgtcg cagancaccg ggcagatcca gtgcaaagtc tttgactcct 200  
tgctgaatct gngcagcaca ttgcagcaac ccntgccctg atggtgggtg 250  
gcactcctct gggagtgata gcaatctttg tggccaccgt tggcatgaag 300  
tgtatgaagt gcttgaaga cgatgaggtg cagaagatga ggatggctgt 350  
cattgggggc gcgatatttc ttcttgacag tctggctatt tnnngttgcc 400  
acagcatggt atggcaatag aatcgttcaa gaattctatg accctatgac 450



cccagtcagt gccaggtacg aatttgggtca ggctctcttc actgggtggg 500  
 ctgctgcttc tctctgcctt ctgggaggtg ccctactttg ctgttcctgc 550  
 ga 552

<210> 274  
 <211> 526  
 <212> DNA  
 <213> Homo sapiens  
 <220>  
 <221> unsure  
 <222> 25, 50, 60, 123, 127, 370, 395, 397-398, 402-403, 405-407  
 <223> unknown base

<400> 274  
 attctccctt cctggatgga tgcncacc gtcacattgc cttccccc 50  
 tggaggattn actcctatgc tggcgacaac atcgtgacct cccaggccat 100  
 ttaccgaggg gctttggatg tcntgcntgt cgcagagcac cgggcagatc 150  
 ccagtgc aaa gtctttgact ccttgctgaa tctgagcagc acattgcaag 200  
 caaccctgct cttgatgggg ttggcatcct cctgggagtg atagcaacct 250  
 ttgtggccac cgttggcatg aagtgtatga agtgcttggga agacgatgag 300  
 gtgccagaag atgaggatgg ctgtcattgg gggcgcgata tttcttgttg 350  
 cagggtctggc tatttttagtn gccacagcat ggtatggcaa tagantnntt 400  
 cnnngnntct atgacctat gacccagtc aatgccaggt acgaatttgg 450  
 tcaggctctc ttcactggct gggctgctgc ttctctctgc cttctgggag 500  
 gtgccctact ttgctgttcc tgtccc 526

<210> 275  
 <211> 398  
 <212> DNA  
 <213> Homo sapiens  
 <220>  
 <221> unsure  
 <222> 22, 61, 91, 144, 238-239, 262, 265-266, 271, 274  
 <223> unknown base

<400> 275  
 agagcaccgg cagatcccag tncaaagtct ttgacccttg ctgaatctga 50  
 gcagcacatt ncaagcaacc ccttgcccttg aagggtggtg ncatcccccc 100  
 tgggagtga tagcaatctt tgtggccacc gttggcatga agtntatgaa 150  
 gtgcttggaa gacgatgagg tgcagaagat gaggatggct gtcattgggg 200



gcgcgatatt tcttcttgca ggtctggcta ttttagtnnc cacagcatgg 250  
 tatggcaata gnatnnttcg nggnttctat gaccctatga cccagtcaa 300  
 tgccaggtag gaatttggtc aggctctctt cactggctgg gctgctgctt 350  
 ctctctgcct tctgggaggt gccctacttt gctgttcctg tccccgaa 398

<210> 276  
 <211> 495  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> 39, 58, 130, 234, 314, 364, 427, 450, 461, 476  
 <223> unknown base

<400> 276  
 agcaatgccc tgccccaggt ggaggattaa ttcctatgnt ggggacaaca 50  
 ttgtgacngc ccaggccatg tacggggggc tgtggatgtc ctgcgtgtcg 100  
 cagagcaccg ggcagatcca gtgcaaagtn tttgactcct tgctgaattt 150  
 gagcagcaca ttgcaagcaa cccgtgcctt gatggtgggtt ggcattcttc 200  
 tgggagtgat agcaatcttt gtggccaccg tggnaatgaa gtgtatgaag 250  
 tgcttggaag acgatgaggt gcagaagatg aggatggctg tcattggggg 300  
 cgcgatattt ctntttgcag gtctggctat tttagttgcc acagcatggg 350  
 atggcaatag aatngttcaa gaattttatg accctatgac cccagtcaat 400  
 gccaggtagc aatttgggtc ggctttnttc actggctggg ctgctgcttn 450  
 tttctgcctt ntgggaggtg ccctantttg ctgttcctgc gaacc 495

<210> 277  
 <211> 200  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> 34, 87, 138, 147, 163, 165-166, 172  
 <223> unknown base

<400> 277  
 tcataggggg gcgcgatatt ttttcttgca ggtntgggta ttttagttgc 50  
 cacagcatgg tatggcaata gaatcgttca agaattntat gaccctatga 100  
 cccagtcaa tgccaggtag gaatttggtc aggctctntt cactggntgg 150  
 gctgctgctt ctntnngcct tntgggaggt gccctacttt gctgttcctg 200



<210> 278  
<211> 542  
<212> DNA  
<213> Homo sapiens

<220>  
<221> unsure  
<222> 26, 43, 55, 77, 198, 361-362, 391-392, 396  
<223> unknown base

<400> 278  
ttcctgggat ggatccgccc ccacntcac atgccctgcc cnttgagat 50  
ttacncctat gctggcgaac aacatcntga ccgcccaggc catgtacgag 100  
gggctgtgga atgtcctgcg tgtcccagag caccgggcag atccagtgca 150  
aagtctttga ctcccttgctg aatctgagca gcacattgca agcaacntg 200  
ccttgatggt ggttggcatc ctccctgggag tgatagcaat ctttgtggcc 250  
accgttggca tgaaagtgtg tgaagtgtt ggaagacgat gaggtgcaga 300  
agatgaggat ggctgtcatt gggggcgca tatttcttct tgcaggctctg 350  
gctatttttag nngccacagc atggtatggc aatcagaccc nntcanaaac 400  
tctatgaccc tatgaccca gtcaatgcc ggtacgaatt tggtcaggct 450  
ctcttcactg gctgggctgc tgcttctctc tgccttctgg gaggtgccct 500  
actttgctgt tcctgtcccc gaaaaacaac ctcttaccga cg 542

<210> 279  
<211> 548  
<212> DNA  
<213> Homo sapiens

<220>  
<221> unsure  
<222> 90, 115, 147, 228, 387  
<223> unknown base

<400> 279  
cggggctgca gctgttgggc ttcatctcgc ttccctgggat ggaatcggcg 50  
ccatcgctcag cactgccctg ccccatggag gatttactcn tatgctggcg 100  
acaacatcgt gaccncccag gccatgtacg aggggctgtg gatgtcngcg 150  
tgtcgagag caccgggcag atccagtgca aagtctttga ctcccttgctg 200  
aatctgagca gcacattgca agcaacntg ccttgatggt ggttggcatc 250  
ctccctgggag tgatagcaat ctttgtggcc accgttggca tgaagtgtat 300  
gaagtgttg gaagacgatg aggtgcagaa gatgaggatg gctgtcattg 350



ggggcgcgat atttcttctt gcaggtctgg ctatttntag ttgccacagc 400  
atggtatggc aatagaatcg ttcaagaatt ctatgaccct atgaccccag 450  
tcaatgccag gtacgaattt ggtcaggctc tcttcaactgg ctgggctgct 500  
gcttctctct gccttctggg aggtgcccta ctttctgtt cctgcgaa 548

<210> 280

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 280

cgagcgagtc atggccaacg c 21

<210> 281

<211> 26

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 281

gtgtcacacg tagtctttcc cgctgg 26

<210> 282

<211> 43

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 282

ctgcagctgt tgggcttcat tctcgcttc ctgggatgga tcg 43

<210> 283

<211> 2285

<212> DNA

<213> Homo sapiens

<400> 283

gcgtgccgtc agctcgccgg gcaccgcggc ctcgccctcg ccctccgccc 50

ctgcgcctgc accgcgtaga ccgaccccc cctccagcgc gccacccgg 100

tagaggaccc ccgcccgtgc cccgaccggt cccgccttt ttgtaaaact 150

taaagcgggc gcagcattaa cgcttccgc cccggtgacc tctcaggggt 200

ctccccgcca aaggtgctcc gccgctaagg aacatggcga aggtggagca 250

ggtcctgagc ctcgagccgc agcacgagct caaattccga ggcccttca 300



cgcgatgtttgt	caccaccaac	ctaaagcttg	gcaaccccgac	agaccgaaat	350
gtgtgttttta	aggtgaagac	tacagcacca	cgtagggtact	gtgtgaggcc	400
caacagcggga	atcatcgatg	caggggcctc	aattaatgta	tctgtgatgt	450
tacagccttt	cgattatgat	cccaatgaga	aaagtaaaca	caagtttatg	500
gttcagtcta	tgtttgctcc	aactgacact	tcagatatgg	aagcagtatg	550
gaaggaggga	aaaccggaag	accttatgga	ttcaaaactt	agatgtgtgt	600
ttgaattgcc	agcagagaat	gataaaccac	atgatgtaga	aataaataaa	650
attatatcca	caactgcac	aaagacagaa	acaccaatag	tgtctaagtc	700
tctgagttct	tctttggatg	acaccgaagt	taagaagggt	atggaagaat	750
gtaagaggct	gcaagggtgaa	gttcagaggc	tacgggagga	gaacaagcag	800
ttcaaggaag	aagatggact	gcggatgagg	aagacagtgc	agagcaacag	850
ccccatttca	gcattagccc	caactgggaa	ggaagaaggc	cttagcaccc	900
ggctcttggc	tctggtgggt	ttgttcttta	tcgttgggtg	aattattggg	950
aagattgcct	tgtagaggta	gcatgcacag	gatggtaa	tggattggtg	1000
gatccaccat	atcatgggat	ttaaatttat	cataaccatg	tgtaaaaaga	1050
aattaatgta	tgatgacac	tcacaggtct	tgcttttaa	ttaccctcc	1100
ctgcacacac	atacacagat	acacacacac	aaatataatg	taacgatctt	1150
ttagaaagtt	aaaaatgtat	agtaactgat	tgagggggaa	aaagaatgat	1200
ctttattaat	gacaagggaa	accatgagta	atgccacaat	ggcatattgt	1250
aaatgtcatt	ttaaacattg	gtaggccttg	gtacatgatg	ctggattacc	1300
tctcttaaaa	tgacaccctt	cctcgctgtg	tggtgctggc	ccttggggag	1350
ctggagccca	gcatgctggg	gagtgcggtc	agctccacac	agtagtcccc	1400
acgtggccca	ctcccggccc	aggctgcttt	ccgtgtcttc	agttctgtcc	1450
aagccatcag	ctccttggga	ctgatgaaca	gagtcagaag	cccaaaggaa	1500
ttgcactgtg	gcagcatcag	acgtactcgt	cataagtgag	aggcgtgtgt	1550
tgactgattg	accagcgct	ttggaaataa	atggcagtgc	tttgttccact	1600
taaagggacc	aagctaaatt	tgtattgggt	catgtagtga	agtcaaactg	1650
ttattcagag	atgtttaatg	catatttaac	ttatttaatg	tatttcact	1700
catgtttttct	tattgtcaca	agagtacagt	taatgctgcg	tgctgctgaa	1750



ctctgttggg tgaactggta ttgctgctgg agggctgtgg gctcctctgt 1800  
ctctggagag tctggtcatg tggaggtggg gtttattggg atgctggaga 1850  
agagctgcca ggaagtgttt tttctgggctc agtaaataac aactgtcata 1900  
gggagggaaa ttctcagtag tgacagtcaa ctctaggtta ccttttttaa 1950  
tgaagagtag tcagtcttct agattgttct tataccacct ctcaaccatt 2000  
actcacactt ccagcgccca ggtccaagtc tgagcctgac ctccccttgg 2050  
ggacctagcc tggagtcagg acaaattgat cgggctgcag agggttagaa 2100  
gcgagggcac cagcagttgt ggggtggggag caaggggaaga gagaaactct 2150  
tcagcgaatc cttctagtag tagttgagag ttgactgtg aattaatttt 2200  
atgccataaa agaccaaccc agttctgttt gactatgtag catcttgaaa 2250  
agaaaaatta taataaagcc ccaaaattaa gaaaa 2285

<210> 284  
<211> 243  
<212> PRT  
<213> Homo sapiens

<400> 284  
Met Ala Lys Val Glu Gln Val Leu Ser Leu Glu Pro Gln His Glu  
1 5 10 15  
Leu Lys Phe Arg Gly Pro Phe Thr Asp Val Val Thr Thr Asn Leu  
20 25 30  
Lys Leu Gly Asn Pro Thr Asp Arg Asn Val Cys Phe Lys Val Lys  
35 40 45  
Thr Thr Ala Pro Arg Arg Tyr Cys Val Arg Pro Asn Ser Gly Ile  
50 55 60  
Ile Asp Ala Gly Ala Ser Ile Asn Val Ser Val Met Leu Gln Pro  
65 70 75  
Phe Asp Tyr Asp Pro Asn Glu Lys Ser Lys His Lys Phe Met Val  
80 85 90  
Gln Ser Met Phe Ala Pro Thr Asp Thr Ser Asp Met Glu Ala Val  
95 100 105  
Trp Lys Glu Ala Lys Pro Glu Asp Leu Met Asp Ser Lys Leu Arg  
110 115 120  
Cys Val Phe Glu Leu Pro Ala Glu Asn Asp Lys Pro His Asp Val  
125 130 135  
Glu Ile Asn Lys Ile Ile Ser Thr Thr Ala Ser Lys Thr Glu Thr  
140 145 150



Pro	Ile	Val	Ser	Lys	Ser	Leu	Ser	Ser	Ser	Leu	Asp	Asp	Thr	Glu
				155					160					165
Val	Lys	Lys	Val	Met	Glu	Glu	Cys	Lys	Arg	Leu	Gln	Gly	Glu	Val
				170					175					180
Gln	Arg	Leu	Arg	Glu	Glu	Asn	Lys	Gln	Phe	Lys	Glu	Glu	Asp	Gly
				185					190					195
Leu	Arg	Met	Arg	Lys	Thr	Val	Gln	Ser	Asn	Ser	Pro	Ile	Ser	Ala
				200					205					210
Leu	Ala	Pro	Thr	Gly	Lys	Glu	Glu	Gly	Leu	Ser	Thr	Arg	Leu	Leu
				215					220					225
Ala	Leu	Val	Val	Leu	Phe	Phe	Ile	Val	Gly	Val	Ile	Ile	Gly	Lys
				230					235					240

Ile Ala Leu

<210> 285  
 <211> 418  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> 40, 53, 68, 119, 134, 177-178, 255  
 <223> unknown base

<400> 285  
 gtcagtcttc tagattgtcc ttatcccacc tttcaaccan tactcacatt 50  
 tcnagcgccc aggtccangt ctgagcctga cttccccttg gggacctagc 100  
 ctggagtcag gacaatggnt cgggctgcag aggnntagaa gcgagggcac 150  
 cagcagtttt ggggtggggag caagggngga gagaaactct tcagcgaatc 200  
 cttctagtac tagttgagag ttgactgtg aattaatttt atgccataaa 250  
 agacnaaccc agttctgttt gactatgtag catcttgaaa agaaaaatta 300  
 taataaagcc ccaaaattaa gaattctttt gtcattttgt cacatttgct 350  
 ctatgggggg aattattatt ttatcatttt tattattttg ccattggaag 400  
 gttaacttta aaatgagc 418

<210> 286  
 <211> 543  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> 73, 97



<223> unknown base

<400> 286

tattgtaaag gccattttaa accattggta ggccttggtg catgatgctg 50  
gattacctcc tttaatgaca ccnttcctcg cctgttggtg ctggccnttg 100  
gggagctgga gcccagcat gctggggagt gcggtcagct ccacacagta 150  
gtccccacgt ggcccactcc cggcccaggc tgctttccgt gtcttcagtt 200  
ctgtccaagc catcagctcc ttgggactga tgaacagagt cagaagccca 250  
aaggaattgc cactgtggca gcatcagacg tactcgatcat aagtgaagg 300  
cgtgtgttga ctgattgacc cagcgctttg gaaataaatg gcagtgcctt 350  
gttcacttaa agggaccaag ctaaattgta ttggttcatg tagtgaagtc 400  
aaactgttat tcagagatgt ttaatgcata ttaacttat ttaatgtatt 450  
tcatctcatg ttttcttatt gtcacaagag tacagttaat gctgcgtgct 500  
gctgaactct gttgggtgaa ctggtattgc tgctggaggg ctg 543

<210> 287

<211> 270

<212> DNA

<213> Homo sapiens

<220>

<221> unsure

<222> 38, 64, 72, 164, 198, 200, 220, 222, 229, 242

<223> unknown base

<400> 287

ccctgggtggt tttgttcttt aattcgttgg tgtaattntt gggaagattg 50  
cttgtagagg tagnatgcac cnggctggta aattggattg gtggatccac 100  
catatccatg ggattttaaat ttatcataac catgtgtaaa aagaaattaa 150  
tgtatgatga catntcacag gtattgcctt taaattaccc atccctgnan 200  
acacatacac agatacacan anacaaatnt aatgtaacga tnttttagaa 250  
agttaaaaaat gtatagtaac 270

<210> 288

<211> 428

<212> DNA

<213> Homo sapiens

<220>

<221> unsure

<222> 35, 116, 129, 197, 278, 294, 297, 349, 351

<223> unknown base







ggggagtgcg gtctgctcca cacagtagtc cccangtggc ccantcccgg 250  
cccaggctgc tttccgtgtc ttcagttctg tccaagccat cagctccttg 300  
ggantgatga acagagtcag aagcccaaag gaattgcant gtggcagcat 350  
cagangtant ngtcataagt gagaggcgtg tgttgantga ttgaccagc 400  
gctttggaaa taaatggcag tgctttgttc anttaaaggg nccaagntaa 450  
atttgatttg gttcatgtag tgaagtcaaa ntgttattca gagatgttta 500  
atgcatattt aanttattta atgtatttca tntcatgttt tcttattgtc 550  
acaagggtag agttaatgct gcgtgctgct gaantctgtt gggagaantg 600  
gtattgctg 609

<210> 291  
<211> 493  
<212> DNA  
<213> Homo sapiens

<400> 291  
ggcccttggg gagctggagc ccagcatgct ggggagtgcg gtcagctcca 50  
cacagtagtc cccacgtggc ccactcccgg cccaggctgc tttccgtgtc 100  
ttcagttctg tccaagccat cagctccttg ggactgatga acagagtcag 150  
aagcccaaag gaattgcact gtggcagcat cagacgtact cgtcataagt 200  
gagaggcgtg tgttgactga ttgaccagc gctttggaaa taaatggcag 250  
tgctttgttc acttaaaggg accaagctaa atttgatttg gttcatgtag 300  
tgaagtcaaa ctgttattca gagatgttta atgcatattt aacttattta 350  
atgtatttca tctcatgttt tcttattgtc acaagagtag agttaatgct 400  
gcgtgctgct gaactctgtt gggagaactg gtattgctgc tggagggtg 450  
tgggctcctc tgtctctgga gagtctgggc atgtggaggt ggg 493

<210> 292  
<211> 27  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 292  
gcaccaccgt aggtacttgt gtgaggc 27

<210> 293  
<211> 23  
<212> DNA



<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 293

aaccaccaga gccaagagcc ggg 23

<210> 294

<211> 50

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 294

cagcgggaatc atcgatgcag gggcctcaat taatgtatct gtgatgttac 50

<210> 295

<211> 2530

<212> DNA

<213> Homo sapiens

<400> 295

gcgagctccg ggtgctgtgg cccggccttg gcggggcggc ctccggctca 50

ggctggctga gaggtccca gctgcagcgt ccccgccgc ctccctcgga 100

gctctgatct cagctgacag tgccctcggg gaccaaaca gcctggcagg 150

gtctcacttt gttgoccagg ctggagttca gtgccatgat catggtttac 200

tgcagccttg acctcctggg ttcaagcgat cctgctgagt agctgggact 250

acaggacaaa attagaagat caaaatggaa aatatgctgc tttggttgat 300

atttttcacc cctgggtgga ccttcattga tggatctgaa atggaatggg 350

attttatgtg gcacttgaga aaggtagccc ggattgtcag tgaaaggact 400

ttccatctca ccagccccgc atttgaggca gatgctaaga tgatggtaaa 450

tacagtgtgt ggcatagaat gccagaaaga actcccaact cccagccttt 500

ctgaattgga ggattatctt tcctatgaga ctgtctttga gaatggcacc 550

cgaaccttaa ccagggtgaa agttcaagat ttggttcttg agccgactca 600

aaatatcacc acaaaggag tatctgttag gagaaagaga caggtgtatg 650

gcaccgacag caggttcagc atcttgaca aaaggttctt aaccaatttc 700

cctttcagca cagctgtgaa gctttccacg ggctgtagtg gcattctcat 750

ttcccctcag catgttctaa ctgctgccca ctgtgttcat gatggaaagg 800

actatgtcaa agggagtaaa aagctaagg tagggttgtt gaagatgagg 850



aataaaaagtg	gaggcaagaa	acgtcagaggt	tctaagagga	gcaggagaga	900
agctagtgggt	ggtgaccaaa	gagaggggtac	cagagagcat	ctgcaggaga	950
gagcgaaggg	tgggagaaga	agaaaaaaat	ctggccgggg	tcagaggatt	1000
gccgaaggga	ggccttcctt	tcagtggacc	cgggtcaaga	ataccacat	1050
tccgaagggc	tgggcacgag	gaggcatggg	ggacgctacc	ttggactatg	1100
actatgctct	tctggagctg	aagcgtgctc	acaaaaagaa	atacatggaa	1150
cttggaatca	gccaacgat	caagaaaatg	cctggtgga	tgatccactt	1200
ctcaggattt	gataacgata	gggctgatca	gttggctctat	cggttttgca	1250
gtgtgtccga	cgaatccaat	gatctccttt	accaatactg	cgatgctgag	1300
tcgggctcca	ccggttcggg	ggtctatctg	cgtctgaaag	atccagacaa	1350
aaagaattgg	aagcgcaaaa	tcattgcggt	ctactcaggg	caccagtggg	1400
tggatgtcca	cggggttcag	aaggactaca	acgttgctgt	tcgcatcact	1450
cccctaaaat	acgcccagat	ttgcctctgg	attcacggga	acgatgccaa	1500
ttgtgcttac	ggctaacaga	gacctgaaac	agggcgggtg	atcatctaaa	1550
tcacagagaa	aaccagctct	gcttaccgta	gtgagatcac	ttcataggtt	1600
atgcctggac	ttgaactctg	tcaatagcat	ttcaacattt	ttcaaaatca	1650
ggagattttc	gtccatttta	aaaatgtata	ggtgcagata	ttgaaactag	1700
gtgggcactt	caatgccaa	tatatactct	tctttacatg	gtgatgagtt	1750
tcatttgtag	aaaaattttg	ttgccttctt	aaaaattaga	cacactttta	1800
accttcaaac	aggtattata	aataacatgt	gactccttaa	tggacttatt	1850
ctcagggtcc	tactctaaga	agaatcta	aggatgctgg	ttgtgtatta	1900
aatgtgaaat	tgcatagata	aaggtagatg	gtaaagcaat	tagtatcaga	1950
atagagacag	aaagttacaa	cacagtttgt	actactctga	gatggatcca	2000
ttcagctcat	gccctcaatg	tttatattgt	gttatctggt	gggtctggga	2050
catttagttt	agtttttttg	aagaattaca	aatcagaaga	aaaagcaagc	2100
attataaaca	aaactaataa	ctgttttact	gctttaagaa	ataacaatta	2150
caatgtgtat	tatttaaaaa	tgggagaaat	agtttgtttc	atgaaataaa	2200
cctagttag	aaatagggaa	gctgagacat	tttaagatct	caagttttta	2250
tttaactaat	actcaaaata	tggacttttc	atgtatgcat	agggaagaca	2300



cttcacaaat tatgaatgat catgtgttga aagccacatt attttatgct 2350  
 atacattcta tgtatgaggt gctacatttt taggacaaag aattctgtaa 2400  
 tctttttcaa gaaagagtct ttttctcctt gacaaaatcc agcttttgta 2450  
 tgaggactat aggggtgaatt ctctgattag taattttaga tatgtccttt 2500  
 cctaaaaatg aataaaattt atgaatatga 2530

<210> 296  
 <211> 413  
 <212> PRT  
 <213> Homo sapiens

<400> 296  
 Met Glu Asn Met Leu Leu Trp Leu Ile Phe Phe Thr Pro Gly Trp  
 1 5 10 15  
 Thr Leu Ile Asp Gly Ser Glu Met Glu Trp Asp Phe Met Trp His  
 20 25 30  
 Leu Arg Lys Val Pro Arg Ile Val Ser Glu Arg Thr Phe His Leu  
 35 40 45  
 Thr Ser Pro Ala Phe Glu Ala Asp Ala Lys Met Met Val Asn Thr  
 50 55 60  
 Val Cys Gly Ile Glu Cys Gln Lys Glu Leu Pro Thr Pro Ser Leu  
 65 70 75  
 Ser Glu Leu Glu Asp Tyr Leu Ser Tyr Glu Thr Val Phe Glu Asn  
 80 85 90  
 Gly Thr Arg Thr Leu Thr Arg Val Lys Val Gln Asp Leu Val Leu  
 95 100 105  
 Glu Pro Thr Gln Asn Ile Thr Thr Lys Gly Val Ser Val Arg Arg  
 110 115 120  
 Lys Arg Gln Val Tyr Gly Thr Asp Ser Arg Phe Ser Ile Leu Asp  
 125 130 135  
 Lys Arg Phe Leu Thr Asn Phe Pro Phe Ser Thr Ala Val Lys Leu  
 140 145 150  
 Ser Thr Gly Cys Ser Gly Ile Leu Ile Ser Pro Gln His Val Leu  
 155 160 165  
 Thr Ala Ala His Cys Val His Asp Gly Lys Asp Tyr Val Lys Gly  
 170 175 180  
 Ser Lys Lys Leu Arg Val Gly Leu Leu Lys Met Arg Asn Lys Ser  
 185 190 195  
 Gly Gly Lys Lys Arg Arg Gly Ser Lys Arg Ser Arg Arg Glu Ala  
 200 205 210



Ser	Gly	Gly	Asp	Gln	Arg	Glu	Gly	Thr	Arg	Glu	His	Leu	Gln	Glu	215	220	225
Arg	Ala	Lys	Gly	Gly	Arg	Arg	Arg	Lys	Lys	Ser	Gly	Arg	Gly	Gln	230	235	240
Arg	Ile	Ala	Glu	Gly	Arg	Pro	Ser	Phe	Gln	Trp	Thr	Arg	Val	Lys	245	250	255
Asn	Thr	His	Ile	Pro	Lys	Gly	Trp	Ala	Arg	Gly	Gly	Met	Gly	Asp	260	265	270
Ala	Thr	Leu	Asp	Tyr	Asp	Tyr	Ala	Leu	Leu	Glu	Leu	Lys	Arg	Ala	275	280	285
His	Lys	Lys	Lys	Tyr	Met	Glu	Leu	Gly	Ile	Ser	Pro	Thr	Ile	Lys	290	295	300
Lys	Met	Pro	Gly	Gly	Met	Ile	His	Phe	Ser	Gly	Phe	Asp	Asn	Asp	305	310	315
Arg	Ala	Asp	Gln	Leu	Val	Tyr	Arg	Phe	Cys	Ser	Val	Ser	Asp	Glu	320	325	330
Ser	Asn	Asp	Leu	Leu	Tyr	Gln	Tyr	Cys	Asp	Ala	Glu	Ser	Gly	Ser	335	340	345
Thr	Gly	Ser	Gly	Val	Tyr	Leu	Arg	Leu	Lys	Asp	Pro	Asp	Lys	Lys	350	355	360
Asn	Trp	Lys	Arg	Lys	Ile	Ile	Ala	Val	Tyr	Ser	Gly	His	Gln	Trp	365	370	375
Val	Asp	Val	His	Gly	Val	Gln	Lys	Asp	Tyr	Asn	Val	Ala	Val	Arg	380	385	390
Ile	Thr	Pro	Leu	Lys	Tyr	Ala	Gln	Ile	Cys	Leu	Trp	Ile	His	Gly	395	400	405
Asn	Asp	Ala	Asn	Cys	Ala	Tyr	Gly								410		

<210> 297  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 297  
 gcatctgcag gagagagcga aggg 24

<210> 298  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence



<220>  
<223> Synthetic oligonucleotide probe

<400> 298  
catcggtccc gtgaatccag aggc 24

<210> 299  
<211> 45  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 299  
gaaggagggc cttcctttca gtggacccgg gtcaagaata cccac 45

<210> 300  
<211> 1869  
<212> DNA  
<213> Homo sapiens

<400> 300  
aatgtgagag gggctgatgg aagctgatag gcaggactgg agtgtagca 50  
ccagtactgg atgtgacagc aggcagagga gcacttagca gcttattcag 100  
tgtccgattc tgattccggc aaggatccaa gcatggaatg ctgccgtcgg 150  
gcaactcctg gcacactgct cctctttctg gctttcctgc tcctgagttc 200  
caggaccgca cgctccgagg aggaccggga cggcctatgg gatgcctggg 250  
gcccattggag tgaatgctca cgcacctgcg ggggaggggc ctccactct 300  
ctgaggcgct gcctgagcag caagagctgt gaaggaagaa atatccgata 350  
cagaacatgc agtaatgtgg actgccacc agaagcaggt gatttccgag 400  
ctcagcaatg ctcagctcat aatgatgtca agcaccatgg ccagttttat 450  
gaatggcttc ctgtgtctaa tgaccctgac aacctatgtt cactcaagtg 500  
ccaagccaaa ggaacaacc tggttggtga actagcacct aaggtcttag 550  
atggtacgag ttgtatata gaatctttgg atatgtgcat cagtggttta 600  
tgccaaattg ttggctgoga tcaccagctg ggaagcaccg tcaaggaaga 650  
taactgtggg gtctgcaacg gagatgggtc cacctgccgg ctggtccgag 700  
ggcagtataa atcccagctc tccgcaacca aatcgatga tactgtggtt 750  
gcacttccct atggaagtag acatattcgc cttgtcttaa aaggtcctga 800  
tcacttatat ctggaaacca aaacctcca ggggactaaa ggtgaaaaca 850  
gtctcagctc cacaggaact ttcttctgg acaattctag tgtggacttc 900







Leu	Ser	Ser	Lys	Ser	Cys	Glu	Gly	Arg	Asn	Ile	Arg	Tyr	Arg	Thr	
				65					70					75	
Cys	Ser	Asn	Val	Asp	Cys	Pro	Pro	Glu	Ala	Gly	Asp	Phe	Arg	Ala	
				80					85					90	
Gln	Gln	Cys	Ser	Ala	His	Asn	Asp	Val	Lys	His	His	Gly	Gln	Phe	
				95					100					105	
Tyr	Glu	Trp	Leu	Pro	Val	Ser	Asn	Asp	Pro	Asp	Asn	Pro	Cys	Ser	
				110					115					120	
Leu	Lys	Cys	Gln	Ala	Lys	Gly	Thr	Thr	Leu	Val	Val	Glu	Leu	Ala	
				125					130					135	
Pro	Lys	Val	Leu	Asp	Gly	Thr	Arg	Cys	Tyr	Thr	Glu	Ser	Leu	Asp	
				140					145					150	
Met	Cys	Ile	Ser	Gly	Leu	Cys	Gln	Ile	Val	Gly	Cys	Asp	His	Gln	
				155					160					165	
Leu	Gly	Ser	Thr	Val	Lys	Glu	Asp	Asn	Cys	Gly	Val	Cys	Asn	Gly	
				170					175					180	
Asp	Gly	Ser	Thr	Cys	Arg	Leu	Val	Arg	Gly	Gln	Tyr	Lys	Ser	Gln	
				185					190					195	
Leu	Ser	Ala	Thr	Lys	Ser	Asp	Asp	Thr	Val	Val	Ala	Leu	Pro	Tyr	
				200					205					210	
Gly	Ser	Arg	His	Ile	Arg	Leu	Val	Leu	Lys	Gly	Pro	Asp	His	Leu	
				215					220					225	
Tyr	Leu	Glu	Thr	Lys	Thr	Leu	Gln	Gly	Thr	Lys	Gly	Glu	Asn	Ser	
				230					235					240	
Leu	Ser	Ser	Thr	Gly	Thr	Phe	Leu	Val	Asp	Asn	Ser	Ser	Val	Asp	
				245					250					255	
Phe	Gln	Lys	Phe	Pro	Asp	Lys	Glu	Ile	Leu	Arg	Met	Ala	Gly	Pro	
				260					265					270	
Leu	Thr	Ala	Asp	Phe	Ile	Val	Lys	Ile	Arg	Asn	Ser	Gly	Ser	Ala	
				275					280					285	
Asp	Ser	Thr	Val	Gln	Phe	Ile	Phe	Tyr	Gln	Pro	Ile	Ile	His	Arg	
				290					295					300	
Trp	Arg	Glu	Thr	Asp	Phe	Phe	Pro	Cys	Ser	Ala	Thr	Cys	Gly	Gly	
				305					310					315	
Gly	Tyr	Gln	Leu	Thr	Ser	Ala	Glu	Cys	Tyr	Asp	Leu	Arg	Ser	Asn	
				320					325					330	
Arg	Val	Val	Ala	Asp	Gln	Tyr	Cys	His	Tyr	Tyr	Pro	Glu	Asn	Ile	
				335					340					345	
Lys	Pro	Lys	Pro	Lys	Leu	Gln	Glu	Cys	Asn	Leu	Asp	Pro	Cys	Pro	







gctccaggaa	gagcctaggc	tggatgtctt	gatcaataac	gcagggatct	500
tccagtgcc	ttacatgaag	actgaagatg	ggtttgagat	gcagttcgga	550
gtgaaccatc	tggggcactt	tctactcacc	aatcttctcc	ttggactcct	600
caaaagttca	gctcccagca	ggattgtggg	agtttcttcc	aaactttata	650
aatacggaga	catcaatttt	gatgacttga	acagtgaaca	aagctataat	700
aaaagctttt	gttatagccg	gagcaaactg	gctaacattc	tttttaccag	750
ggaactagcc	cgccgcttag	aaggcacaaa	tgtcaccgtc	aatgtgttgc	800
atcctgggat	tgtacggaca	aatctgggga	ggcacataca	cattccactg	850
ttggtcaaac	cactcttcaa	tttgggtgtc	tgggcttttt	tcaaaaactcc	900
agtagaagg	gccagactt	ccatttattt	ggcctcttca	cctgaggtag	950
aaggagtgtc	aggaagatac	tttggggatt	gtaaagagga	agaactgttg	1000
cccaaagcta	tggatgaatc	tgttgcaaga	aaactctggg	atatcagtga	1050
agtgatgggt	ggcctgctaa	aataggaaca	aggagtaaaa	gagctgttta	1100
taaaactgca	tatcagttat	atctgtgatc	aggaatgggtg	tggattgaga	1150
acttgttact	tgaagaaaaa	gaattttgat	attggaatag	cctgctaaga	1200
ggtacatgtg	ggtattttgg	agttactgaa	aaattatttt	tgggataaga	1250
gaatttcagc	aaagatgttt	taaatatata	tagtaagtat	aatgaataat	1300
aagtacaatg	aaaaatacaa	ttatattgta	aaattataac	tgggcaagca	1350
tggatgacat	attaatat	gtcagaatta	agtgactcaa	agtgtctatcg	1400
agagggtttt	caagtatctt	tgagtttcat	ggccaaagtg	ttaactagtt	1450
ttactacaat	gtttgggtgtt	tgtgtggaaa	ttatctgcct	ggtgtgtgca	1500
cacaagtctt	acttggaata	aatttactgg	tac		1533

<210> 303

<212> PRT

<400> 303

1	5	10	15
Ala	Leu	Trp	Leu
Ala	Ala	Arg	Arg
Phe	Val	Gly	Pro
Arg	Val	Gln	
20	25	30	

Arg Leu Arg Arg Gly Gly Asp Pro Gly Leu Met His Gly Lys Thr  
35 40 45



Val	Leu	Ile	Thr	Gly	Ala	Asn	Ser	Gly	Leu	Gly	Arg	Ala	Thr	Ala	50	55	60
Ala	Glu	Leu	Leu	Arg	Leu	Gly	Ala	Arg	Val	Ile	Met	Gly	Cys	Arg	65	70	75
Asp	Arg	Ala	Arg	Ala	Glu	Glu	Ala	Ala	Gly	Gln	Leu	Arg	Arg	Glu	80	85	90
Leu	Arg	Gln	Ala	Ala	Glu	Cys	Gly	Pro	Glu	Pro	Gly	Val	Ser	Gly	95	100	105
Val	Gly	Glu	Leu	Ile	Val	Arg	Glu	Leu	Asp	Leu	Ala	Ser	Leu	Arg	110	115	120
Ser	Val	Arg	Ala	Phe	Cys	Gln	Glu	Met	Leu	Gln	Glu	Glu	Pro	Arg	125	130	135
Leu	Asp	Val	Leu	Ile	Asn	Asn	Ala	Gly	Ile	Phe	Gln	Cys	Pro	Tyr	140	145	150
Met	Lys	Thr	Glu	Asp	Gly	Phe	Glu	Met	Gln	Phe	Gly	Val	Asn	His	155	160	165
Leu	Gly	His	Phe	Leu	Leu	Thr	Asn	Leu	Leu	Leu	Gly	Leu	Leu	Lys	170	175	180
Ser	Ser	Ala	Pro	Ser	Arg	Ile	Val	Val	Val	Ser	Ser	Lys	Leu	Tyr	185	190	195
Lys	Tyr	Gly	Asp	Ile	Asn	Phe	Asp	Asp	Leu	Asn	Ser	Glu	Gln	Ser	200	205	210
Tyr	Asn	Lys	Ser	Phe	Cys	Tyr	Ser	Arg	Ser	Lys	Leu	Ala	Asn	Ile	215	220	225
Leu	Phe	Thr	Arg	Glu	Leu	Ala	Arg	Arg	Leu	Glu	Gly	Thr	Asn	Val	230	235	240
Thr	Val	Asn	Val	Leu	His	Pro	Gly	Ile	Val	Arg	Thr	Asn	Leu	Gly	245	250	255
Arg	His	Ile	His	Ile	Pro	Leu	Leu	Val	Lys	Pro	Leu	Phe	Asn	Leu	260	265	270
Val	Ser	Trp	Ala	Phe	Phe	Lys	Thr	Pro	Val	Glu	Gly	Ala	Gln	Thr	275	280	285
Ser	Ile	Tyr	Leu	Ala	Ser	Ser	Pro	Glu	Val	Glu	Gly	Val	Ser	Gly	290	295	300
Arg	Tyr	Phe	Gly	Asp	Cys	Lys	Glu	Glu	Glu	Leu	Leu	Pro	Lys	Ala	305	310	315
Met	Asp	Glu	Ser	Val	Ala	Arg	Lys	Leu	Trp	Asp	Ile	Ser	Glu	Val	320	325	330
Met	Val	Gly	Leu	Leu	Lys												



<210> 304  
 <211> 521  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> 20, 34, 62, 87, 221, 229  
 <223> unknown base

<400> 304  
 ggggattgta aagaggaagn actgtgccca aagntatgga tgaatctgtt 50  
 gcaagaaaat tntgggatat cagtgaagtg atggttngcc tgctaaaata 100  
 ggaacaagga gtaaaagagc tgtttataaa actgcatatc agttatatct 150  
 gtgatcagga atggtgtgga ttgagaactt gttacttgaa gaaaaagaat 200  
 tttgatattg gaatagcctg ntaagaggna catgtgggta ttttgagatt 250  
 actgaaaaat ttttttggg ataagagaat ttcagcaaag atgttttaa 300  
 tatatatagt aagtataatg aataataagt acaatgaaaa atacaattat 350  
 attgtaaaat tataactggg caagcatgga tgacatatta atatttgtca 400  
 gaattaagtg actcaaagtg ctatcgagag gtttttcaag tatctttgag 450  
 tttcatggcc aaagtgttaa ctagttttac tacaatgttt ggtgtttgtg 500  
 tggaattat ctgcctggct t 521

<210> 305  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 305  
 ccaggaaatg ctccaggaag agcc 24

<210> 306  
 <211> 26  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 306  
 gcccatgaca ccaaattgaa gagtgg 26

<210> 307







acatcctctt ctgcacatac agaaaactcc agcagattgt cctgtaatcg 1100  
 ctattgacag ctttaggcac atgtatgtgt ttggagactt caaagatgta 1150  
 ttaattcctg gaaaactcaa gcaattcgta ttgacttac attctggaaa 1200  
 actgcacaga gaattccatc atggacctga cccaactgat acagccccag 1250  
 gagagcaagc ccaagatgta gcaagcagtc cacctgagag ctccttcag 1300  
 aaactagcac ccagtgaata taggtatact ctattgaggg atcgagatga 1350  
 gctttaaaaaa cttgaaaaac agtttgtaag cctttcaaca gcagcatcaa 1400  
 cctacgtggg ggaaatagta aacctatatt ttcataattc tatgtgtatt 1450  
 tttattttga ataaacagaa agaaatttaa aaaaaaaaaa aaaaaaaaaa 1500  
 aaaaaaaaaa aaaaaaaaaa aaa 1523

<210> 309

<211> 406

<212> PRT

<213> Homo sapiens

<400> 309

Met	His	Pro	Ala	Val	Phe	Leu	Ser	Leu	Pro	Asp	Leu	Arg	Cys	Ser	1	5	10	15
Leu	Leu	Leu	Leu	Val	Thr	Trp	Val	Phe	Thr	Pro	Val	Thr	Thr	Glu	20	25	30	
Ile	Thr	Ser	Leu	Ala	Thr	Glu	Asn	Ile	Asp	Glu	Ile	Leu	Asn	Asn	35	40	45	
Ala	Asp	Val	Ala	Leu	Val	Asn	Phe	Tyr	Ala	Asp	Trp	Cys	Arg	Phe	50	55	60	
Ser	Gln	Met	Leu	His	Pro	Ile	Phe	Glu	Glu	Ala	Ser	Asp	Val	Ile	65	70	75	
Lys	Glu	Glu	Phe	Pro	Asn	Glu	Asn	Gln	Val	Val	Phe	Ala	Arg	Val	80	85	90	
Asp	Cys	Asp	Gln	His	Ser	Asp	Ile	Ala	Gln	Arg	Tyr	Arg	Ile	Ser	95	100	105	
Lys	Tyr	Pro	Thr	Leu	Lys	Leu	Phe	Arg	Asn	Gly	Met	Met	Met	Lys	110	115	120	
Arg	Glu	Tyr	Arg	Gly	Gln	Arg	Ser	Val	Lys	Ala	Leu	Ala	Asp	Tyr	125	130	135	
Ile	Arg	Gln	Gln	Lys	Ser	Asp	Pro	Ile	Gln	Glu	Ile	Arg	Asp	Leu	140	145	150	
Ala	Glu	Ile	Thr	Thr	Leu	Asp	Arg	Ser	Lys	Arg	Asn	Ile	Ile	Gly	155	160	165	



Tyr	Phe	Glu	Gln	Lys	Asp	Ser	Asp	Asn	Tyr	Arg	Val	Phe	Glu	Arg
				170					175					180
Val	Ala	Asn	Ile	Leu	His	Asp	Asp	Cys	Ala	Phe	Leu	Ser	Ala	Phe
				185					190					195
Gly	Asp	Val	Ser	Lys	Pro	Glu	Arg	Tyr	Ser	Gly	Asp	Asn	Ile	Ile
				200					205					210
Tyr	Lys	Pro	Pro	Gly	His	Ser	Ala	Pro	Asp	Met	Val	Tyr	Leu	Gly
				215					220					225
Ala	Met	Thr	Asn	Phe	Asp	Val	Thr	Tyr	Asn	Trp	Ile	Gln	Asp	Lys
				230					235					240
Cys	Val	Pro	Leu	Val	Arg	Glu	Ile	Thr	Phe	Glu	Asn	Gly	Glu	Glu
				245					250					255
Leu	Thr	Glu	Glu	Gly	Leu	Pro	Phe	Leu	Ile	Leu	Phe	His	Met	Lys
				260					265					270
Glu	Asp	Thr	Glu	Ser	Leu	Glu	Ile	Phe	Gln	Asn	Glu	Val	Ala	Arg
				275					280					285
Gln	Leu	Ile	Ser	Glu	Lys	Gly	Thr	Ile	Asn	Phe	Leu	His	Ala	Asp
				290					295					300
Cys	Asp	Lys	Phe	Arg	His	Pro	Leu	Leu	His	Ile	Gln	Lys	Thr	Pro
				305					310					315
Ala	Asp	Cys	Pro	Val	Ile	Ala	Ile	Asp	Ser	Phe	Arg	His	Met	Tyr
				320					325					330
Val	Phe	Gly	Asp	Phe	Lys	Asp	Val	Leu	Ile	Pro	Gly	Lys	Leu	Lys
				335					340					345
Gln	Phe	Val	Phe	Asp	Leu	His	Ser	Gly	Lys	Leu	His	Arg	Glu	Phe
				350					355					360
His	His	Gly	Pro	Asp	Pro	Thr	Asp	Thr	Ala	Pro	Gly	Glu	Gln	Ala
				365					370					375
Gln	Asp	Val	Ala	Ser	Ser	Pro	Pro	Glu	Ser	Ser	Phe	Gln	Lys	Leu
				380					385					390
Ala	Pro	Ser	Glu	Tyr	Arg	Tyr	Thr	Leu	Leu	Arg	Asp	Arg	Asp	Glu
				395					400					405

Leu

<210> 310  
 <211> 182  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure



<222> 36, 48  
<223> unknown base

<400> 310  
attaaggaag aatttccaaa tgaaaatcaa gtagtntttg ccagagtnga 50  
ttgtgatcag cactotgaca tagcccagag atacaggata agcaaatacc 100  
caaccctcaa attgtttcgt aatgggatga tgatgaagag agaatacagg 150  
ggtcagcgat cagtgaagc attggcagat ta 182

<210> 311  
<211> 598  
<212> DNA  
<213> Homo sapiens

<220>  
<221> unsure  
<222> 38, 59, 140, 169, 174, 183, 282-283, 294-295, 319, 396  
<223> unknown base

<400> 311  
agaggcctct ctggaagttg tcccgggtgt tcgccgcngg agcccgggtc 50  
gagaggacna ggtgccgtg cctggagaat cctccgctgc cgtcggctcc 100  
cggagcccag ccctttccta acccaaccca acctagcccn gtcccagccg 150  
ccagcgcctg tccctgtcnc ggancccagc gtnaccatgc atcctgccgt 200  
cttcctatcc ttacccgacc tcagatgctc ccttctgctc ctggtaactt 250  
gggtttttac tcctgtaaca actgaaataa cnngtcttga tacnnagaat 300  
atagatgaaa ttttaaacna tgctgatgtg gctttagtca atttttatgc 350  
tgactgggtg cgtttcagtc agatgtggca tccaattttt gaggangctt 400  
ccgatgtcat taaggaagaa tttccaaatg aaaatcaagt agtgtttgcc 450  
agagttgatt gtgatcagca ctctgacata gccagagat acaggataag 500  
caaataccca accctcaaat tgtttcgtaa tgggatgatg atgaagagag 550  
aatacagggg tcagcgatca gtgaaagcat tggcagatta catcaggc 598

<210> 312  
<211> 22  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 312  
tgagaggcct ctctggaagt tg 22







[illegible]

ctgtatctct gggctatgtc agag 24

<213> Artificial Sequence

ctacatataa tggcacatgt cagcc 25

<213> Artificial Sequence

cgtcttccta tccttaccgc acctcagatg ctcccttctg ctcttg 46

<213> Homo sapiens

gcccacgcgt ccgatggcgt tcacgttcgc ggccttctgc tacatgctgg 50

cqctgctgct cactgccgcg ctcattttct tcgccatttg gcacattata 100

gcatttgatg agctgaagac tgattacaag aatcctatag accagtgtaa 150

taccctgaat ccccttgtag tcccagagta cctcatccac gctttctttct 200

gtgtcatggt tctttgtgca gcagagtggc ttacactggg tctcaatatg 250

cccctcttgg catatcatat ttggaggat atgagtagac cagtgatgag 300

tggtccagga ctctatgacc ctacaacat catgaatgca gatattctag 350

catattgtca gaaggaagga tgggtgcaaat tagcttttta tcttctagca 400

tttttttact acctatatgg catgatctat gttttggtga gctcttagaa 450

caacacacag aagaattggt ccagttaagt gcatgcaaaa agccaccaaa 500

tgaagggatt ctatccagca agatcctgtc caagagtagc ctgtggaatc 550



tgatcagtta ctttaaaaaa tgactcotta ttttttaaata gtttccacat 600  
 ttttgcttgt ggaaagactg ttttcatatg ttataactcag ataaagattt 650  
 taaatgggtat tacgtataaa ttaatatataa atgattacct ctgggtgttga 700  
 caggtttgaa cttgcacttc ttaaggaaca gccataatcc tctgaatgat 750  
 gcattaatta ctgactgtcc tagtacattg gaagcttttg tttataggaa 800  
 cttgtagggc tcatttttggc ttcatgtgaa cagtatctaa ttataaatta 850  
 gctgtagata tcagggtgctt ctgatgaagt gaaaatgtat atctgactag 900  
 tgggaaactt catgggtttc ctcatctgtc atgtcgatga ttatatatgg 950  
 atacattttac aaaaataaaa agcgggaatt ttcccttcgc ttgaatatta 1000  
 tccctgtata ttgcatgaat gagagatttc ccatatttcc atcagagtaa 1050  
 taaatatact tgctttaatt ctttaagcata agtaaacaatg atataaaaat 1100  
 atatgctgaa ttacttgtga agaatgcatt taaagctatt tttaatgtgt 1150  
 ttttatttgt aagacattac ttattaagaa attgggttatt atgcttactg 1200  
 ttctaactctg gtggtaaagg tattcttaag aatttgcagg tactacagat 1250  
 tttcaaaact gaatgagaga aaattgtata accatcctgc tgttccttta 1300  
 gtgcaataca ataaaactct gaaattaaga ctc 1333

<210> 322

<211> 144

<212> PRT

<213> Homo sapiens

<400> 322

Met Ala Phe Thr Phe Ala Ala Phe Cys Tyr Met Leu Ala Leu Leu  
 1 5 10 15

Leu Thr Ala Ala Leu Ile Phe Phe Ala Ile Trp His Ile Ile Ala  
 20 25 30

Phe Asp Glu Leu Lys Thr Asp Tyr Lys Asn Pro Ile Asp Gln Cys  
 35 40 45

Asn Thr Leu Asn Pro Leu Val Leu Pro Glu Tyr Leu Ile His Ala  
 50 55 60

Phe Phe Cys Val Met Phe Leu Cys Ala Ala Glu Trp Leu Thr Leu  
 65 70 75

Gly Leu Asn Met Pro Leu Leu Ala Tyr His Ile Trp Arg Tyr Met  
 80 85 90

Ser Arg Pro Val Met Ser Gly Pro Gly Leu Tyr Asp Pro Thr Thr  
 95 100 105



Ile	Met	Asn	Ala	Asp	Ile	Leu	Ala	Tyr	Cys	Gln	Lys	Glu	Gly	Trp
				110					115					120
Cys	Lys	Leu	Ala	Phe	Tyr	Leu	Leu	Ala	Phe	Phe	Tyr	Tyr	Leu	Tyr
				125					130					135
Gly	Met	Ile	Tyr	Val	Leu	Val	Ser	Ser						
				140										

<210> 323  
 <211> 477  
 <212> DNA  
 <213> Homo sapiens

<400> 323  
 attatagcat ttgatgagct gaagactgat tacaagatcc tatagaccag 50  
 tgtaataccc tgaatcccct tgtactocca gagtacctca tccacgcttt 100  
 cttctgtgtc atgtttcttt gtgcagcaga gtggcttaca ctgggtctca 150  
 atatgcccct cttggcatat catatttgga ggtatatgag tagaccagt 200  
 atgagtgggc caggactcta tgaccctaca accatcatga atgcagatat 250  
 tctagcatat tgtcagaagg aaggatgggtg caaattagct ttttatcttc 300  
 tagcatTTTT ttactaccta tatggcatga tctatgtttt ggtgagctct 350  
 tagaacaaca cacagaagaa ttggtccagt taagtgcattg caaaaagcca 400  
 ccaaatgaag ggattctatc cagcaagatc ctgtccaaga gtagcctgtg 450  
 gaatctgatc agttacttta aaaaatg 477

<210> 324  
 <211> 43  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 324  
 tgtaaaacga cggccagttt aatagacctg caattattaa tct 43

<210> 325  
 <211> 41  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 325  
 caggaaacag ctatgaccac ctgcacacct gcaaattccat t 41

<210> 326



<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 326  
gtgcagcaga gtggcttaca 20

<210> 327  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 327  
actggaccaa ttcttctgtg 20

<210> 328  
<211> 45  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 328  
gatattctag catattgtca gaaggaagga tgggtgcaaatt tagct 45

<210> 329  
<211> 1174  
<212> DNA  
<213> Homo sapiens

<400> 329  
cggacgcgtg ggggaaaccc ttccgagaaa acagcaacaa gctgagctgc 50  
tgtgacagag gggaacaaga tggcggcgcc gaaggggagc ctctgggtga 100  
ggacccaact ggggctcccg ccgctgctgc tgctgaccat ggccttggcc 150  
ggaggttcgg ggaccgcttc ggctgaagca tttgactcgg tcttgggtga 200  
tacggcgtct tgccaccggg cctgtcagtt gacctacccc ttgcacacct 250  
accctaagga agaggagttg tacgcatgtc agagagggttg caggctgttt 300  
tcaatttgtc agtttgtgga tgatggaatt gacttaaata gaactaaatt 350  
ggaatgtgaa tctgcatgta cagaagcata ttcccaattc gatgagcaat 400  
atgcttgcca tcttggttgc cagaatcagc tgccattcgc tgaactgaga 450  
caagaacaac ttatgtccct gatgccaaaa atgcacctac tctttcctct 500



aactctggtg aggtcattct ggagtgcacat gatggactcc gcacagagct 550  
tcataacctc ttcattggact ttttatcttc aagccgatga cggaaaaata 600  
gttatattcc agtctaagcc agaaatccag tacgcaccac atttgagca 650  
ggagcctaca aatttgagag aatcatctct aagcaaaatg tcctatctgc 700  
aaatgagaaa ttcacaagcg cacaggaatt ttcttgaaga tggagaaagt 750  
gatggctttt taagatgcct ctctcttaac tctgggtgga ttttaactac 800  
aactcttgct ctctcggtga tggatttgc ttggatttgc tgtgcaactg 850  
ttgctacagc tgtggagcag tatgttccct ctgagaagct gagtatctat 900  
ggtgacttgg agtttatgaa tgaacaaaag ctaaacagat atccagcttc 950  
ttctcttggt gttgttagat ctaaaactga agatcatgaa gaagcagggc 1000  
ctctacctac aaaagtgaat cttgctcatt ctgaaattta agcatttttc 1050  
ttttaaaaga caagtgaat agacatctaa aattccactc ctcatagagc 1100  
ttttaaaatg gtttcattgg atataggcct taagaaatca ctataaaatg 1150  
caaataaagt tactcaaatc tgtg 1174

<210> 330

<211> 323

<212> PRT

<213> Homo sapiens

<400> 330

Met	Ala	Ala	Pro	Lys	Gly	Ser	Leu	Trp	Val	Arg	Thr	Gln	Leu	Gly
1				5					10					15
Leu	Pro	Pro	Leu	Leu	Leu	Leu	Thr	Met	Ala	Leu	Ala	Gly	Gly	Ser
			20						25					30
Gly	Thr	Ala	Ser	Ala	Glu	Ala	Phe	Asp	Ser	Val	Leu	Gly	Asp	Thr
			35						40					45
Ala	Ser	Cys	His	Arg	Ala	Cys	Gln	Leu	Thr	Tyr	Pro	Leu	His	Thr
			50						55					60
Tyr	Pro	Lys	Glu	Glu	Glu	Leu	Tyr	Ala	Cys	Gln	Arg	Gly	Cys	Arg
			65						70					75
Leu	Phe	Ser	Ile	Cys	Gln	Phe	Val	Asp	Asp	Gly	Ile	Asp	Leu	Asn
			80						85					90
Arg	Thr	Lys	Leu	Glu	Cys	Glu	Ser	Ala	Cys	Thr	Glu	Ala	Tyr	Ser
			95						100					105
Gln	Ser	Asp	Glu	Gln	Tyr	Ala	Cys	His	Leu	Gly	Cys	Gln	Asn	Gln
			110						115					120



Leu	Pro	Phe	Ala	Glu	Leu	Arg	Gln	Glu	Gln	Leu	Met	Ser	Leu	Met	
				125					130					135	
Pro	Lys	Met	His	Leu	Leu	Phe	Pro	Leu	Thr	Leu	Val	Arg	Ser	Phe	
				140					145					150	
Trp	Ser	Asp	Met	Met	Asp	Ser	Ala	Gln	Ser	Phe	Ile	Thr	Ser	Ser	
				155					160					165	
Trp	Thr	Phe	Tyr	Leu	Gln	Ala	Asp	Asp	Gly	Lys	Ile	Val	Ile	Phe	
				170					175					180	
Gln	Ser	Lys	Pro	Glu	Ile	Gln	Tyr	Ala	Pro	His	Leu	Glu	Gln	Glu	
				185					190					195	
Pro	Thr	Asn	Leu	Arg	Glu	Ser	Ser	Leu	Ser	Lys	Met	Ser	Tyr	Leu	
				200					205					210	
Gln	Met	Arg	Asn	Ser	Gln	Ala	His	Arg	Asn	Phe	Leu	Glu	Asp	Gly	
				215					220					225	
Glu	Ser	Asp	Gly	Phe	Leu	Arg	Cys	Leu	Ser	Leu	Asn	Ser	Gly	Trp	
				230					235					240	
Ile	Leu	Thr	Thr	Thr	Leu	Val	Leu	Ser	Val	Met	Val	Leu	Leu	Trp	
				245					250					255	
Ile	Cys	Cys	Ala	Thr	Val	Ala	Thr	Ala	Val	Glu	Gln	Tyr	Val	Pro	
				260					265					270	
Ser	Glu	Lys	Leu	Ser	Ile	Tyr	Gly	Asp	Leu	Glu	Phe	Met	Asn	Glu	
				275					280					285	
Gln	Lys	Leu	Asn	Arg	Tyr	Pro	Ala	Ser	Ser	Leu	Val	Val	Val	Arg	
				290					295					300	
Ser	Lys	Thr	Glu	Asp	His	Glu	Glu	Ala	Gly	Pro	Leu	Pro	Thr	Lys	
				305					310					315	
Val	Asn	Leu	Ala	His	Ser	Glu	Ile								
				320											

<210> 331  
 <211> 350  
 <212> DNA  
 <213> Homo sapiens

<400> 331  
 ttgggtgata cggcgtcttg ccaccgggcc tgtcagttga cctacccott 50  
 gcacacctac cctaaggaag aggagttgta cgcacgtcag agaggttgca 100  
 ggctgttttc aatttgctcag tttgtggatg atggaattga cttaaataoga 150  
 actaaattgg aatgtgaatc tgcacgtaca gaagcatatt cccaatctga 200  
 tgagcaatat gcttgccatc ttggttgcca gaatcagctg ccattcgctg 250



aactgagaca agaacaactt atgtccctga tgccaaaaat gcacctactc 300  
 tttcctctaa ctctgggtgag gtcattcttg agtgacatga tggactccgc 350

<210> 332  
 <211> 562  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> 47  
 <223> unknown base

<400> 332  
 cacactggcc ggatctttta gagtcctttg accttgacca agggtcngga 50  
 aaacagcaac aagctgagct gctgtgacag agggacaag atggcggcgc 100  
 cgaagggagc ctttgggtga ggacccaact ggggctcccg ccgctgctgc 150  
 tgctgaccat ggccttggcc ggaggttcgg ggaccgcttc ggctgaagca 200  
 tttgactcgg tcttgggtga tacggcgtct tgccaccggg cctgtcagtt 250  
 gacctacccc ttgcacacct accctaagga agaggagttg tacgcatgtc 300  
 agagaggttg caggctgttt tcaatttgtc agtttgtgga tgatggaatt 350  
 gacttaaadc gaactaaatt ggaatgtgaa tctgcatgta cagaagcata 400  
 ttccaatct gatgagcaat atgcttgcca tcttggttgc cagaatcagc 450  
 tgccattcgc tgaactgaga caagaacaac ttatgtccct gatgccaaaa 500  
 atgcacctac tctttcctct aactctggtg aggtcattct ggagtgcacat 550  
 gatggactcc gc 562

<210> 333  
 <211> 22  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 333  
 acaagctgag ctgctgtgac ag 22

<210> 334  
 <211> 22  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe



<400> 334  
tgattctggc aaccaagatg gc 22

<210> 335

<211> 40

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 335

atggccttgg ccggaggttc ggggaccgct tcggctgaag 40

<210> 336

<211> 1885

<212> DNA

<213> Homo sapiens

<400> 336

gcgaggtggc gatcgctgag aggcaggagg gccgaggcgg gcctgggagg 50

cggcccggag gtggggcgcc gctggggccg gcccgcacgg gcttcatctg 100

agggcgacg gcccgcgacc gagcgtgcgg actggcctcc caagcgtggg 150

gcgacaagct gccggagctg caatgggccg cggctgggga ttcttgtttg 200

gcctcctggg cgccgtgtgg ctgctcagct cgggccacgg agaggagcag 250

cccccgaga cagcggcaca gaggtgcttc tgccaggtta gtggttactt 300

ggatgattgt acctgtgatg ttgaaaccat tgatagattt aataactaca 350

ggcttttccc aagactacaa aaacttcttg aaagtgacta ctttaggtat 400

tacaaggtaa acctgaagag gccgtgtcct ttctggaatg acatcagcca 450

gtgtggaaga agggactgtg ctgtcaaacc atgtcaatct gatgaagttc 500

ctgatggaat taaatctgcg agctacaagt attctgaaga agccaataat 550

ctcattgaag aatgtgaaca agctgaacga cttggagcag tggatgaatc 600

tctgagttag gaaacacaga aggctgttct tcagtggacc aagcatgatg 650

attcttcaga taacttctgt gaagctgatg acattcagtc ccctgaagct 700

gaatatgtag atttgcttct taatcctgag cgctacactg gttacaaggg 750

accagatgct tggaaaatat ggaatgtcat ctacgaagaa aactgtttta 800

agccacagac aattaaaaga cttttaaata ctttggcttc tgggtcaaggg 850

acaagtgaag agaacacttt ttacagttgg ctagaaggtc tctgtgtaga 900

aaaaagagca ttctacagac ttatatctgg cctacatgca agcattaatg 950











[illegible]

```

<210> 338
<211> 507
<212> DNA
<213> Homo sapiens

<220>
<221> unsure
<222> 101, 263, 376, 397, 426
<223> unknown base

<400> 338
gctggaaata tggatgtcat ctacgagaaa ctgttttaag ccacagacaa 50
ttaaagacc tttaaactct ttggcttctg gtcaaggac aagtgaagag 100
nacacttttt acagttggct agaaggcttc tgtgtagaaa aaagagcatt 150
ctacagactt atatctggcc tacatgcaag cattaatgtg ctttgagtgt 200
caagatatct tttaacaagag acctggttag aaaagaaatg gggacacaac 250
attacagaat ttnaacagcg atttgatgga attttgactg aaggagaagg 300
tccaagaagg cttaagaact tgtattttct ctacttaata gaactaaggg 350
ctttatccaa agtgttacca ttcttngagc gccagattt tcaactnttt 400
actggaaata aaattcagga tgaggnaaac aaaatgttac ttttgaaaat 450
acttcatgaa atcaagtcac ttcctttgca ttttgatgag aattcatttt 500
tttgctg 507

<210> 339
<211> 20

```



<212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 339  
 aagctgccgg agctgcaatg 20  
  
 <210> 340  
 <211> 21  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 340  
 ttgcttctta atcctgagcg c 21  
  
 <210> 341  
 <211> 20  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 341  
 aaaggaggac tttcgactgc 20  
  
 <210> 342  
 <211> 26  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 342  
 agagattcat ccactgctcc aagtcg 26  
  
 <210> 343  
 <211> 25  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 343  
 tgtccagaaa caggcacata tcagc 25  
  
 <210> 344  
 <211> 50  
 <212> DNA  
 <213> Artificial Sequence



<220>  
<223> Synthetic oligonucleotide probe

<400> 344  
agacagcggc acagaggtgc ttctgccagg ttagtggtta cttggatgat 50

<210> 345  
<211> 1486

<212> DNA  
<213> Homo sapiens

<400> 345  
cggacgcgtg ggcggacgcg tgggcggacg cgtgggttgg gagggggcag 50  
gatgggaggg aaagtgaaga aaacagaaaa ggagagggac agaggccaga 100  
ggactttctca tactggacag aaaccgatca ggcattggaac tcccccttcgt 150  
cactcacctg ttcttgcccc tgggtgttct gacagggtctc tgctccccct 200  
ttaacctgga tgaacatcac ccacgcctat tcccagggcc accagaagct 250  
gaatttgatg acagtgtctt acaacatgtt ggggggtggac agcgatggat 300  
gctgggtggc gccccctggg atgggccttc aggcgaccgg aggggggacg 350  
tttatcgtcg ccctgtaggg gggggccaca atgccccatg tgccaagggc 400  
cacttaggtg actaccaact gggaaattca tctcatctg ctgtgaatat 450  
gcacctgggg atgtctctgt tagagacaga tggatgatgg ggattcatgg 500  
tgagctaagg agagggtggg ggcagtgtct ctgaagggtc ataaaagaaa 550  
aaagagaagt gtggaaggg aaaatggtct gtgtggaggg gtcaaggagt 600  
taaaaaccct agaaagcaaa aggtaggtaa tgtcaggag tagtcttcat 650  
gcctccttca actgggagca tgttctgagg gtgccctccc aagcctggga 700  
gtaactatth ccccatccc caggcctgtg cccctctctg gtctcgtgct 750  
tgtggcagct ctgtcttcag ttctgggata tgtgccctg tggtatgcttc 800  
attccagcct cagggaagcc tggcaccac tgccaacgt gagccagagg 850  
aaggctgagt acttggttcc cagaaggaga tactgggtgg gaaaaagatg 900  
gggcaaagcg gtatgatgcc tggcaaaggg cctgcatggc tatcctcatt 950  
gctacctaat gtgcttgcaa aagctccatg tttcctaaca gattcagact 1000  
cctggccagg tgtggtggcc cacacctgta attctagcac ttggggaggc 1050  
caagggtggc agatcacttg aggtcaggag ttcaagacca gcctggccaa 1100  
catggtgaaa ctccatctct actaaaaaaaa aaaaaatata aaaattagct 1150



ggggtgcgcta gtgcatgcct gtaatctcat ctactcggga ggctaagaca 1200  
 ggagactctc acttcaaccc aggaggtgga ggttgcggtg agccaagatt 1250  
 gtgcctctgc actctagcgt gggtagacaga gtaagcgaga ctccatctca 1300  
 aaaataataa taataataat tcagactcct tatcaggagt ccatgatctg 1350  
 gcctggcaca gtaactcatg cctgtaatcc caacattttg ggaggccaac 1400  
 gcaggaggat tgcttgaggt ctggagggtt gagaccagcc tgggcaacat 1450  
 agaaagaccc catctctaaa taaatgtttt aaaaat 1486

<210> 346  
 <211> 124  
 <212> PRT  
 <213> Homo sapiens

<400> 346  
 Met Glu Leu Pro Phe Val Thr His Leu Phe Leu Pro Leu Val Phe  
 1 5 10 15  
 Leu Thr Gly Leu Cys Ser Pro Phe Asn Leu Asp Glu His His Pro  
 20 25 30  
 Arg Leu Phe Pro Gly Pro Pro Glu Ala Glu Phe Gly Tyr Ser Val  
 35 40 45  
 Leu Gln His Val Gly Gly Gly Gln Arg Trp Met Leu Val Gly Ala  
 50 55 60  
 Pro Trp Asp Gly Pro Ser Gly Asp Arg Arg Gly Asp Val Tyr Arg  
 65 70 75  
 Cys Pro Val Gly Gly Ala His Asn Ala Pro Cys Ala Lys Gly His  
 80 85 90  
 Leu Gly Asp Tyr Gln Leu Gly Asn Ser Ser His Pro Ala Val Asn  
 95 100 105  
 Met His Leu Gly Met Ser Leu Leu Glu Thr Asp Gly Asp Gly Gly  
 110 115 120  
 Phe Met Val Ser

<210> 347  
 <211> 509  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> 22  
 <223> unknown base

<400> 347



cacagttccc caccatcact cntcccatc ottccaactt tatitttagc 50  
 ttgccattgg gagggggcag gatgggaggg aaagtgaaga aaacagaaaa 100  
 ggagagggac agaggccaga ggactttctca tactggacag aaaccgatca 150  
 ggcatggaac tccccttcgt cactcacctg ttcttgcccc tgggtgttct 200  
 gacaggtctc tgctccccct ttaacctgga tgaacatcac ccacgcctat 250  
 tcccagggcc accagaagct gaatttgat acagtgtctt acaacatgtt 300  
 gggggtggac agcgatggat gctgggtggc gcccctggg atgggccttc 350  
 aggcgaccgg aggggggacg tttatcgctg ccctgtaggg gggggccaca 400  
 atgccccatg tgccaagggc cacttaggtg actaccaact gggaaattca 450  
 tctcatcctg ctgtgaatat gcacctgggg atgtctctgt tagagacaga 500  
 tggatgatgg 509

<210> 348

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 348

aggacagag gccagaggac ttc 23

<210> 349

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 349

caggtgcata ttcacagcag gatg 24

<210> 350

<211> 45

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 350

ggaactcccc ttctgctcct acctgttctt gcccctgggtg ttcct 45

<210> 351

<211> 2056

<212> DNA



<213> Homo sapiens

<400> 351

aaagttacat tttctctgga actctcctag gccactccct gctgatgcaa 50  
catctggggtt tgggcagaaa ggaggggtgt tggagccccg ccctttctga 100  
gcttcctggg cgggctctag aacaattcag gcttcgctgc gactcagacc 150  
tcagctccaa catatgcatt ctgaagaaa atggctgaga tggacagaat 200  
gctttatttt ggaaagaaac aatgttctag gtcaaactga gtctaccaa 250  
tgcagacttt cacaatgggt ctagaagaaa tctggacaag tcttttcatg 300  
tggtttttct acgcattgat tccatgtttg ctcacagatg aagtggccat 350  
tctgcctgcc cctcagaacc tctctgtact ctcaaccaac atgaagcatc 400  
tcttgatgtg gagcccagtg atcgcgcctg gagaaacagt gtactattct 450  
gtcgaatacc agggggagta cgagagcctg tacacgagcc acatctggat 500  
ccccagcagc tgggtgtcac tcactgaagg tcctgagtgat gatgtcactg 550  
atgacatcac ggccactgtg ccatacaacc ttctgtgtcag ggccacattg 600  
gggtcacaga cctcagcctg gagcatcctg aagcatccct ttaatagaaa 650  
ctcaaccatc cttacccgac ctgggatgga gatcaccaaa gatggcttcc 700  
acctggttat tgagctggag gacctggggc cccagtttga gttccttgtg 750  
gcctactgga ggagggagcc tgggtgccgag gaacatgtca aaatggtgag 800  
gagtggggggt attccagtgc acctagaaac catggagcca ggggctgcat 850  
actgtgtgaa ggcccagaca ttctgtgaagg ccattgggag gtacagcgcc 900  
ttcagccaga cagaatgtgt ggaggtgcaa ggagaggcca ttcccctggg 950  
actggccctg tttgcctttg ttggcttcat gctgacctt gtggtcgtgc 1000  
cactgttcgt ctggaaaatg ggccggctgc tccagtactc ctgttgcccc 1050  
gtggtggtcc tcccagacac cttgaaaata accaattcac cccagaagtt 1100  
aatcagctgc agaaggagg aggtggatgc ctgtgccacg gctgtgatgt 1150  
ctcctgagga actcctcagg gcctggatct cataggtttg cggaagggcc 1200  
caggtgaagc cgagaacctg gtctgcatga catggaaacc atgaggggac 1250  
aagttgtgtt tctgttttcc gccacggaca agggatgaga gaagtaggaa 1300  
gagcctgttg tctacaagtc tagaagcaac catcagaggc agggtggttt 1350  
gtctaacaga aactgactg aggcctaggg gatgtgacct ctagactggg 1400



ggctgccact tgctggctga gcaaccctgg gaaaagtgc ttcattccctt 1450  
 cggtcctaag ttttctcatc tgtaatgggg gaattaccta cacacctgct 1500  
 aaacacacac acacagagtc tctctctata tatacacacg tacacataaa 1550  
 tacacccagc acttgcaagg ctagagggaa actggtgaca ctctacagtc 1600  
 tgactgattc agtgtttctg gagagcagga cataaatgta tgatgagaat 1650  
 gatcaaggac tctacacact ggggtggcttg gagagcccac tttcccagaa 1700  
 taatccttga gagaaaagga atcatgggag caatggtggt gagttcactt 1750  
 caagcccaat gccggtgcag aggggaatgg cttagcgagc tctacagtag 1800  
 gtgacctgga ggaaggtcac agccacactg aaaatgggat gtgcatgaac 1850  
 acggaggatc catgaactac tgtaaagtgt tgacagtgtg tgcacactgc 1900  
 agacagcagg tgaaatgtat gtgtgcaatg cgacgagaat gcagaagtca 1950  
 gtaacatgtg catgtttgtt gtgctccttt tttctgttgg taaagtacag 2000  
 aattcagcaa ataaaaaggg ccaccctggc caaaagcggg aaaaaaaaaa 2050  
 aaaaaa 2056

<210> 352  
 <211> 311  
 <212> PRT  
 <213> Homo sapiens

<400> 352  
 Met Gln Thr Phe Thr Met Val Leu Glu Glu Ile Trp Thr Ser Leu  
 1 5 10 15  
 Phe Met Trp Phe Phe Tyr Ala Leu Ile Pro Cys Leu Leu Thr Asp  
 20 25 30  
 Glu Val Ala Ile Leu Pro Ala Pro Gln Asn Leu Ser Val Leu Ser  
 35 40 45  
 Thr Asn Met Lys His Leu Leu Met Trp Ser Pro Val Ile Ala Pro  
 50 55 60  
 Gly Glu Thr Val Tyr Tyr Ser Val Glu Tyr Gln Gly Glu Tyr Glu  
 65 70 75  
 Ser Leu Tyr Thr Ser His Ile Trp Ile Pro Ser Ser Trp Cys Ser  
 80 85 90  
 Leu Thr Glu Gly Pro Glu Cys Asp Val Thr Asp Asp Ile Thr Ala  
 95 100 105  
 Thr Val Pro Tyr Asn Leu Arg Val Arg Ala Thr Leu Gly Ser Gln  
 110 115 120



Thr	Ser	Ala	Trp	Ser	Ile	Leu	Lys	His	Pro	Phe	Asn	Arg	Asn	Ser	125	130	135
Thr	Ile	Leu	Thr	Arg	Pro	Gly	Met	Glu	Ile	Thr	Lys	Asp	Gly	Phe	140	145	150
His	Leu	Val	Ile	Glu	Leu	Glu	Asp	Leu	Gly	Pro	Gln	Phe	Glu	Phe	155	160	165
Leu	Val	Ala	Tyr	Trp	Arg	Arg	Glu	Pro	Gly	Ala	Glu	Glu	His	Val	170	175	180
Lys	Met	Val	Arg	Ser	Gly	Gly	Ile	Pro	Val	His	Leu	Glu	Thr	Met	185	190	195
Glu	Pro	Gly	Ala	Ala	Tyr	Cys	Val	Lys	Ala	Gln	Thr	Phe	Val	Lys	200	205	210
Ala	Ile	Gly	Arg	Tyr	Ser	Ala	Phe	Ser	Gln	Thr	Glu	Cys	Val	Glu	215	220	225
Val	Gln	Gly	Glu	Ala	Ile	Pro	Leu	Val	Leu	Ala	Leu	Phe	Ala	Phe	230	235	240
Val	Gly	Phe	Met	Leu	Ile	Leu	Val	Val	Val	Pro	Leu	Phe	Val	Trp	245	250	255
Lys	Met	Gly	Arg	Leu	Leu	Gln	Tyr	Ser	Cys	Cys	Pro	Val	Val	Val	260	265	270
Leu	Pro	Asp	Thr	Leu	Lys	Ile	Thr	Asn	Ser	Pro	Gln	Lys	Leu	Ile	275	280	285
Ser	Cys	Arg	Arg	Glu	Glu	Val	Asp	Ala	Cys	Ala	Thr	Ala	Val	Met	290	295	300
Ser	Pro	Glu	Glu	Leu	Leu	Arg	Ala	Trp	Ile	Ser					305	310	

<210> 353

<211> 864

<212> DNA

<213> Homo sapiens

<220>

<221> unsure

<222> 654, 711, 748, 827

<223> unknown base

<400> 353

tcctgctgat gcacatctgg gtttggcaaa aggaggttgc ttcgagccgc 50

cctttctagc ttcttgcccg gctctagaac aattcaggct tcgctgcgac 100

tagacctcag ctccaacata tgcattctga agaaagatgg ctgagatgac 150

agaatgcttt attttggaaa gaaacaatgt tctaggtcaa actgagtcta 200



ccaaatgcag actttcaciaa tggttctaga agaaatctgg acaagtcttt 250  
 tcatgtgggtt tttctacgca ttgattccat gtttgctcac agatgaagtg 300  
 gccattctgc ctgcccctca gaacctctct gtactctcaa ccaacatgaa 350  
 gcatctcttg atgtggagcc cagtgatcgc gcctggagaa acagtgtact 400  
 attctgtcga ataccagggg gagtacgaga gcctgtacac gagccacatc 450  
 tggatcccca gcagctgggtg ctcaactcact gaaggtcctg agtgtgatgt 500  
 cactgatgac atcacggcca ctgtgccata caacctttgt gtcagggcca 550  
 cattggggctc acagacctca gcctggagca toctgaagca tccctttaat 600  
 agaaactcaa ccataccttac ccgacctggg atggagatca ccaaagatgg 650  
 cttncacctg gttattgagc tggaggacct ggggccccag tttgagttcc 700  
 ttgtggccta ntggaggagg ggcgaacccc ttgcggcgca aggggttngc 750  
 gaaccccttg cggccgctgg ggtatctctc gagaaaagag aggcccaata 800  
 tgaccacat actcaatatg gacgaantgc tattgtccac ctgtttgagt 850  
 ggcgctgggt tgat 864

<210> 354

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 354

aggcttcgct gcgactagac ctc 23

<210> 355

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 355

ccaggtcggg taaggatggg tgag 24

<210> 356

<211> 50

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe



<400> 356  
tttctacgca ttgattccat gtttgctcac agatgaagtg gccattctgc 50

<210> 357

<211> 1670

<212> DNA

<213> Homo sapiens

<400> 357  
cccacgcgtc cgcccacgcg tccgagggac aagagagaag agagactgaa 50  
acagggagaa gaggcaggag aggaggaggt ggggagagca cgaagctgga 100  
ggccgacact gagggagggc gggaggaggt gaagaaggag agaggggaga 150  
agaggcagga gctggaaagg agagagggag gaggaggagg agatgcggga 200  
tgagacactg gagttaggtg gcttgggaga gcttaatgaa aagagaacgg 250  
agaggaggtg tgggttagga accaagaggt agccctgtgg gcagcagaag 300  
gctgagagga gtaggaagat caggagctag agggagactg gagggttccg 350  
ggaaaagagc agaggaaaga ggaaagacac agagagacgg gagagagaag 400  
aagagtgggt ttgaagggcg gatctcagtc cctggctgct ttggcatttg 450  
gggaactggg actccctgtg gggaggagag gaaagctgga agtcctggag 500  
ggacagggtc ccagaaggag gggacagagg agctgagaga ggggggcagg 550  
gcgttgggca ggggtccctc ggaggcctcc tggggatggg ggctgcagct 600  
cgtctgagcg cccctcgagc gctggtactc tgggctgcac tgggggcagc 650  
agctcacatc ggaccagcac ctgacccoga ggactggtgg agctacaagg 700  
ataatctcca gggaaacttc gtgccagggc ctcttttctg gggcctggtg 750  
aatgcagcgt ggagtctgtg tgctgtgggg aagcggcaga gccccgtgga 800  
tgtggagctg aagaggggtc tttatgacct ctttctgccc ccattaaggc 850  
tcagcactgg aggagagaag ctccggggaa cttgtacaa caccggccga 900  
catgtctcct tcctgcctgc accccgacct gtggtcaatg tgtctggagg 950  
tcccctcctt tacagccacc gactcagtga actgcggctg ctgtttggag 1000  
ctcgcgacgg agccggctcg gaacatcaga tcaaccacca gggcttctct 1050  
gctgaggtgc agctcattca cttcaaccag gaactctacg ggaatttcag 1100  
cgctgcctcc cgcgggccca atggcctggc cattctcagc ctctttgtca 1150  
acgttgccag tacctctaac ccattcctca gtgcctcct taaccgcgac 1200  
accatcactc gcatctccta caagaatgat gcctactttc ttcaagacct 1250



gagcctggag ctctgttcc ctgaatcctt cggcttcac acctatcagg 1300  
gctctctcag caccgccccc tgctccgaga ctgtcacctg gatcctcatt 1350  
gaccggggccc tcaatatcac ctcccttcag atgcactccc tgagactcct 1400  
gagccagaat cctccatctc agatcttcca gagcctcagc ggtaacagcc 1450  
ggcccctgca gcccttggcc cacagggcac tgaggggcaa cagggacccc 1500  
cggcaccgcc agaggcgctg ccgaggcccc aactaccgcc tgcattgtgga 1550  
tggtgtcccc catggctgct gagactcccc ttcgaggatt gcaccgcc 1600  
gtcctaagcc tccccacaag gcgaggggag ttacccttaa aacaaagcta 1650  
ttaaaggac agaatactta 1670

<210> 358  
<211> 328  
<212> PRT  
<213> Homo sapiens

<400> 358  
Met Gly Ala Ala Ala Arg Leu Ser Ala Pro Arg Ala Leu Val Leu  
1 5 10 15  
Trp Ala Ala Leu Gly Ala Ala Ala His Ile Gly Pro Ala Pro Asp  
20 25 30  
Pro Glu Asp Trp Trp Ser Tyr Lys Asp Asn Leu Gln Gly Asn Phe  
35 40 45  
Val Pro Gly Pro Pro Phe Trp Gly Leu Val Asn Ala Ala Trp Ser  
50 55 60  
Leu Cys Ala Val Gly Lys Arg Gln Ser Pro Val Asp Val Glu Leu  
65 70 75  
Lys Arg Val Leu Tyr Asp Pro Phe Leu Pro Pro Leu Arg Leu Ser  
80 85 90  
Thr Gly Gly Glu Lys Leu Arg Gly Thr Leu Tyr Asn Thr Gly Arg  
95 100 105  
His Val Ser Phe Leu Pro Ala Pro Arg Pro Val Val Asn Val Ser  
110 115 120  
Gly Gly Pro Leu Leu Tyr Ser His Arg Leu Ser Glu Leu Arg Leu  
125 130 135  
Leu Phe Gly Ala Arg Asp Gly Ala Gly Ser Glu His Gln Ile Asn  
140 145 150  
His Gln Gly Phe Ser Ala Glu Val Gln Leu Ile His Phe Asn Gln  
155 160 165  
Glu Leu Tyr Gly Asn Phe Ser Ala Ala Ser Arg Gly Pro Asn Gly



170	175	180
Leu Ala Ile Leu Ser Leu Phe Val Asn	Val Ala Ser Thr Ser Asn	
185	190	195
Pro Phe Leu Ser Arg Leu Leu Asn Arg	Asp Thr Ile Thr Arg Ile	
200	205	210
Ser Tyr Lys Asn Asp Ala Tyr Phe Leu	Gln Asp Leu Ser Leu Glu	
215	220	225
Leu Leu Phe Pro Glu Ser Phe Gly Phe	Ile Thr Tyr Gln Gly Ser	
230	235	240
Leu Ser Thr Pro Pro Cys Ser Glu Thr	Val Thr Trp Ile Leu Ile	
245	250	255
Asp Arg Ala Leu Asn Ile Thr Ser Leu	Gln Met His Ser Leu Arg	
260	265	270
Leu Leu Ser Gln Asn Pro Pro Ser Gln	Ile Phe Gln Ser Leu Ser	
275	280	285
Gly Asn Ser Arg Pro Leu Gln Pro Leu	Ala His Arg Ala Leu Arg	
290	295	300
Gly Asn Arg Asp Pro Arg His Pro Glu	Arg Arg Cys Arg Gly Pro	
305	310	315
Asn Tyr Arg Leu His Val Asp Gly Val	Pro His Gly Arg	
320	325	

<210> 359

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 359

tctgctgagg tgcagctcat tcac 24

<210> 360

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 360

gaggctctgg aagatctgag atgg 24

<210> 361

<211> 50

<212> DNA

<213> Artificial Sequence



<220>

<223> Synthetic oligonucleotide probe

<400> 361

gcctctttgt caacgttgcc agtacctcta acccattcct cagtcgcctc 50

<210> 362

<211> 3038

<212> DNA

<213> Homo sapiens

<400> 362

ggcgccctggt tctgcgcgta ctggctgtac ggagcaggag caagaggctc 50

ccgccagcct ccgccgccga gcctcggttcg tgtccccgcc cctcgctcct 100

gcagctactg ctcaaaaacg ctggggcgcc caccctggca gactaacgaa 150

gcagctccct tcccaccca actgcaggtc taattttgga cgctttgcct 200

gccatttctt ccaggttgag ggagccgcag aggcggaggc tcgcgtattc 250

ctgcagtcag caccacgct gcccccggac gctcgggtgct caggcccttc 300

gcgagcgggg ctctccgtct gcggtccctt gtgaaggctc tgggcggctg 350

cagaggccgg ccgtccggtt tggctcacct ctcccaggaa acttcacact 400

ggagagccaa aaggagtgga agagcctgtc ttggagattt tcttggggaa 450

atcctgaggt cattcattat gaagtgtacc gcgcgggagt ggctcagagt 500

aaccacagtg ctgttcattg ctagagcaat tccagccatg gtggttccca 550

atgccacttt attggagaaa cttttggaaa aatacatgga tgaggatggt 600

gagtgggtgga tagccaaaca acgagggaaa agggccatca cagacaatga 650

catgcagagt attttggacc ttcataataa attacgaagt caggtgtatc 700

caacagcctc taatatggag tatatgacat gggatgtaga gctggaaaga 750

tctgcagaat cctgggctga aagttgcttg tgggaacatg gacctgcaag 800

cttgcttcca tcaattggac agaatttggg agcacactgg ggaagatata 850

ggcccccgac gtttcatgta caatcgtggt atgatgaagt gaaagacttt 900

agctacccat atgaacatga atgcaacca tattgtccat tcagggtgttc 950

tggccctgta tgtacacatt atacacaggt cgtgtgggca actagtaaca 1000

gaatcggttg tgccattaat ttgtgtcata acatgaacat ctgggggcag 1050

atatggcca aagctgtcta cctggtgtgc aattactccc caaagggaaa 1100

ctggtggggc catgccccctt acaaacatgg gcggccctgt tctgcttgcc 1150



cacctagttt	tggaggggggc	tgtagagaaa	atctgtgcta	caaagaaggg	1200
tcagacaggt	attatccccc	tcgagaagag	gaaacaaatg	aaatagaacg	1250
acagcagtc	caagtccatg	acacccatgt	ccggacaaga	tcagatgata	1300
gtagcagaaa	tgaagtcata	agcgcacagc	aaatgtccca	aattgtttct	1350
tgtgaagtaa	gattaagaga	tcagtgcaaa	ggaacaacct	gcaataggta	1400
cgaatgtcct	gctggctgtt	tggatagtaa	agctaaagtt	attggcagtg	1450
tacattatga	aatgcaatcc	agcatctgta	gagctgcaat	tcattatggt	1500
ataatagaca	atgatggtgg	ctgggtagat	atcactagac	aaggaagaaa	1550
gcattatttc	atcaagtcca	atagaaatgg	tattcaaaca	attggcaa	1600
atcagtctgc	taattccttc	acagtctcta	aagtaacagt	tcaggctgtg	1650
acttgtgaaa	caactgtgga	acagctctgt	ccatttcata	agcctgcttc	1700
acattgcccc	agagtatact	gtcctcgtaa	ctgtatgcaa	gcaaatccac	1750
attatgctcg	tgtaattgga	actcgagttt	attctgatct	gtccagtatc	1800
tgcagagcag	cagtacatgc	tggagtgggt	cgaaatcacg	gtggttatgt	1850
tgatgtaatg	cctgtggaca	aaagaaagac	ctacattgct	tcttttcaga	1900
atggaatctt	ctcagaaagt	ttacagaatc	ctccaggagg	aaaggcattc	1950
agagtgtttg	ctgttggtg	aaactgaata	cttggaagag	gaccataaag	2000
actattccaa	atgcaatatt	tctgaatttt	gtataaaact	gtaacattac	2050
tgtacagagt	acatcaacta	ttttcagccc	aaaaaggtgc	caaatgcata	2100
taaatcttga	taaacaaagt	ctataaaaata	aaacatggga	cattagcttt	2150
gggaaaagta	atgaaaatat	aatgggtttta	gaaatcctgt	gttaaataatt	2200
gctatatttt	cttagcagtt	atttctacag	ttaattacat	agtcatgatt	2250
gttctacggt	tcatatatta	tatggtgctt	tgtatatgcc	actaataaaa	2300
tgaatctaaa	cattgaatgt	gaatggccct	cagaaaatca	tctagtgc	2350
ttaaaaataa	tcgactctaa	aactgaaaga	aaccttatca	cattttcccc	2400
agtccaatgc	tatgccatta	ccaactccaa	ataatctcaa	ataattttcc	2450
acttaataac	tgtaaagttt	ttttctgtta	atttaggcat	atagaatatt	2500
aaattctgat	attgcacttc	ttattttata	taaaataatc	ctttaatatc	2550
caaatgaatc	tgttaaaatg	tttgattcct	tgggaatggc	cttaaaaaata	2600



aatgtaataa agtcagagtg gtggtatgaa aacattccta gtgatcatgt 2650  
 agtaaagtga gggttaagca tggacagcca gagctttcta tgtactgtta 2700  
 aaattgaggt cacatatattt cttttgtatc ctggcaaata ctctgcagg 2750  
 ccaggaagta taatagcaaa aagttgaaca aagatgaact aatgtattac 2800  
 attaccattg ccactgattt tttttaaatg gtaaatgacc ttgtatataa 2850  
 atattgccat atcatggtac ctataatggt gatataatttg tttctatgaa 2900  
 aaatgtattg tgctttgata ctaaaaatct gtaaaatggt agttttggta 2950  
 attttttttc tgctggtgga tttacatatt aaattttttc tgctggtgga 3000  
 taaacattaa aattaatcat gtttcaaaaa aaaaaaaa 3038

<210> 363  
 <211> 500  
 <212> PRT  
 <213> Homo sapiens

<400> 363

Met	Lys	Cys	Thr	Ala	Arg	Glu	Trp	Leu	Arg	Val	Thr	Thr	Val	Leu	1	5	10	15
Phe	Met	Ala	Arg	Ala	Ile	Pro	Ala	Met	Val	Val	Pro	Asn	Ala	Thr	20	25	30	
Leu	Leu	Glu	Lys	Leu	Leu	Glu	Lys	Tyr	Met	Asp	Glu	Asp	Gly	Glu	35	40	45	
Trp	Trp	Ile	Ala	Lys	Gln	Arg	Gly	Lys	Arg	Ala	Ile	Thr	Asp	Asn	50	55	60	
Asp	Met	Gln	Ser	Ile	Leu	Asp	Leu	His	Asn	Lys	Leu	Arg	Ser	Gln	65	70	75	
Val	Tyr	Pro	Thr	Ala	Ser	Asn	Met	Glu	Tyr	Met	Thr	Trp	Asp	Val	80	85	90	
Glu	Leu	Glu	Arg	Ser	Ala	Glu	Ser	Trp	Ala	Glu	Ser	Cys	Leu	Trp	95	100	105	
Glu	His	Gly	Pro	Ala	Ser	Leu	Leu	Pro	Ser	Ile	Gly	Gln	Asn	Leu	110	115	120	
Gly	Ala	His	Trp	Gly	Arg	Tyr	Arg	Pro	Pro	Thr	Phe	His	Val	Gln	125	130	135	
Ser	Trp	Tyr	Asp	Glu	Val	Lys	Asp	Phe	Ser	Tyr	Pro	Tyr	Glu	His	140	145	150	
Glu	Cys	Asn	Pro	Tyr	Cys	Pro	Phe	Arg	Cys	Ser	Gly	Pro	Val	Cys	155	160	165	
Thr	His	Tyr	Thr	Gln	Val	Val	Trp	Ala	Thr	Ser	Asn	Arg	Ile	Gly				



	170		175		180
Cys Ala Ile Asn	Leu Cys His Asn Met	Asn Ile Trp Gly Gln Ile			
	185	190			195
Trp Pro Lys Ala	Val Tyr Leu Val Cys	Asn Tyr Ser Pro Lys Gly			
	200	205			210
Asn Trp Trp Gly	His Ala Pro Tyr Lys	His Gly Arg Pro Cys Ser			
	215	220			225
Ala Cys Pro Pro	Ser Phe Gly Gly Gly	Cys Arg Glu Asn Leu Cys			
	230	235			240
Tyr Lys Glu Gly	Ser Asp Arg Tyr Tyr	Pro Pro Arg Glu Glu Glu			
	245	250			255
Thr Asn Glu Ile	Glu Arg Gln Gln Ser	Gln Val His Asp Thr His			
	260	265			270
Val Arg Thr Arg	Ser Asp Asp Ser Ser	Arg Asn Glu Val Ile Ser			
	275	280			285
Ala Gln Gln Met	Ser Gln Ile Val Ser	Cys Glu Val Arg Leu Arg			
	290	295			300
Asp Gln Cys Lys	Gly Thr Thr Cys Asn	Arg Tyr Glu Cys Pro Ala			
	305	310			315
Gly Cys Leu Asp	Ser Lys Ala Lys Val	Ile Gly Ser Val His Tyr			
	320	325			330
Glu Met Gln Ser	Ser Ile Cys Arg Ala	Ala Ile His Tyr Gly Ile			
	335	340			345
Ile Asp Asn Asp	Gly Gly Trp Val Asp	Ile Thr Arg Gln Gly Arg			
	350	355			360
Lys His Tyr Phe	Ile Lys Ser Asn Arg	Asn Gly Ile Gln Thr Ile			
	365	370			375
Gly Lys Tyr Gln	Ser Ala Asn Ser Phe	Thr Val Ser Lys Val Thr			
	380	385			390
Val Gln Ala Val	Thr Cys Glu Thr Thr	Val Glu Gln Leu Cys Pro			
	395	400			405
Phe His Lys Pro	Ala Ser His Cys Pro	Arg Val Tyr Cys Pro Arg			
	410	415			420
Asn Cys Met Gln	Ala Asn Pro His Tyr	Ala Arg Val Ile Gly Thr			
	425	430			435
Arg Val Tyr Ser	Asp Leu Ser Ser Ile	Cys Arg Ala Ala Val His			
	440	445			450
Ala Gly Val Val	Arg Asn His Gly Gly	Tyr Val Asp Val Met Pro			
	455	460			465



Val	Asp	Lys	Arg	Lys	Thr	Tyr	Ile	Ala	Ser	Phe	Gln	Asn	Gly	Ile
				470					475					480
Phe	Ser	Glu	Ser	Leu	Gln	Asn	Pro	Pro	Gly	Gly	Lys	Ala	Phe	Arg
				485					490					495
Val	Phe	Ala	Val	Val										
				500										

<210> 364  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 364  
 ggacagaatt tgggagcaca ctgg 24

<210> 365  
 <211> 20  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 365  
 ccaagagtat actgtcctcg 20

<210> 366  
 <211> 25  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 366  
 agcacagatt ttctctacag ccccc 25

<210> 367  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 367  
 aaccactcca gcatgtactg ctgc 24

<210> 368  
 <211> 50  
 <212> DNA  
 <213> Artificial Sequence



<220>  
<223> Synthetic oligonucleotide probe

<400> 368  
ccattcaggt gttctggccc tgtatgtaca cattatacac aggtcgtgtg 50

<210> 369  
<211> 1685  
<212> DNA  
<213> Homo sapiens

<400> 369  
gcggagacaa gcgcagagcg cagcgcacgg ccacagacag ccctgggcat 50  
ccaccgacgg cgcagccgga gccagcagag ccggaaggcg cgccccgggc 100  
agagaaagcc gagcagagct ggggtggcgtc tccggggccgc cgctccgacg 150  
ggccagcgcc ctccccatgt ccctgctccc acgcgcgcgc cctccggtca 200  
gcatgaggct cctggcggcc gcgctgctcc tgctgctgct ggcgctgtac 250  
accgcgcgtg tggacgggtc caaatgcaag tgctcccga agggacccaa 300  
gatccgctac agcgacgtga agaagctgga aatgaagcca aagtaccgc 350  
actgcgagga gaagatgggt atcatcacca ccaagagcgt gtccaggtac 400  
cgaggtcagg agcactgcct gcacccaag ctgcagagca ccaagcgctt 450  
catcaagtgg tacaacgcct ggaacgagaa gcgcagggtc tacgaagaat 500  
aggggtgaaaa acctcagaag ggaaaaactcc aaaccagttg ggagacttgt 550  
gcaaaggact ttgcagatta aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 600  
aaaaaaaaaa aaagcctttc tttctcacag gcataagaca caaattatat 650  
attgttatga agcacttttt accaacggtc agttttttaca ttttatagct 700  
gcgtgcgaaa ggcttccaga tgggagaccc atctctcttg tgctccagac 750  
ttcatcacag gctgcttttt atcaaaaagg ggaaaactca tgcctttcct 800  
ttttaaaaaa tgcttttttg tatttgtcca taogtacta tacatctgag 850  
ctttataagc gcccgggagg aacaatgagc ttggtggaca catttcattg 900  
cagtgttgct ccattcctag cttgggaagc ttccgcttag aggtcctggc 950  
gcctcggcac agctgccacg ggctctcctg ggcttatggc cggtcacagc 1000  
ctcagtgtga ctccacagtg gcccctgtag ccgggcaagc aggagcaggt 1050  
ctctctgcat ctgttctctg aggaactcaa gtttggttgc cagaaaaatg 1100  
tgcttcattc cccctgggtt aatttttaca caccctagga aacatttcca 1150



agatcctgtg atggcgagac aaatgatcct taaagaaggt gtgggggtctt 1200  
 tcccaacctg aggatttctg aaaggttcac aggttcaata tttaatgctt 1250  
 cagaagcatg tgagggtccc aacactgtca gcaaaaacct taggagaaaa 1300  
 cttaaaaata tatgaataca tgcgcaatac acagctacag acacacattc 1350  
 tgttgacaag ggaaaacctt caaagcatgt ttctttccct caccacaaca 1400  
 gaacatgcag tactaaagca atatatttgt gattcccat gtaattcttc 1450  
 aatgttaaac agtgcagtcc tctttcgaaa gctaagatga ccatgcgccc 1500  
 tttcctctgt acatataccc ttaagaacgc cccctccaca cactgcccc 1550  
 cagtatatgc cgcattgtac tgctgtgtta tatgctatgt acatgtcaga 1600  
 aaccattagc attgcatgca ggtttcatat tctttctaag atggaaagta 1650  
 ataaaatata ttgaaatgt aaaaaaaaaa aaaaa 1685

<210> 370  
 <211> 111  
 <212> PRT  
 <213> Homo sapiens

<400> 370  
 Met Ser Leu Leu Pro Arg Arg Ala Pro Pro Val Ser Met Arg Leu  
 1 5 10 15  
 Leu Ala Ala Ala Leu Leu Leu Leu Leu Leu Ala Leu Tyr Thr Ala  
 20 25 30  
 Arg Val Asp Gly Ser Lys Cys Lys Cys Ser Arg Lys Gly Pro Lys  
 35 40 45  
 Ile Arg Tyr Ser Asp Val Lys Lys Leu Glu Met Lys Pro Lys Tyr  
 50 55 60  
 Pro His Cys Glu Glu Lys Met Val Ile Ile Thr Thr Lys Ser Val  
 65 70 75  
 Ser Arg Tyr Arg Gly Gln Glu His Cys Leu His Pro Lys Leu Gln  
 80 85 90  
 Ser Thr Lys Arg Phe Ile Lys Trp Tyr Asn Ala Trp Asn Glu Lys  
 95 100 105  
 Arg Arg Val Tyr Glu Glu  
 110

<210> 371  
 <211> 22  
 <212> DNA  
 <213> Artificial Sequence  
 <220>



<223> Synthetic oligonucleotide probe

<400> 371

cagcgccctc cccatgtccc tg 22

<210> 372

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 372

tcccaactgg tttggagttt tccc 24

<210> 373

<211> 45

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 373

ctccggtcag catgaggctc ctggcgcccg ctgctcctgc tgctg 45

<210> 374

<211> 3113

<212> DNA

<213> Homo sapiens

<400> 374

gccccagggg ctgctatggc ttcctttgtt gttcaccccg gtctgcgtca 50

tggttaaacctc caatgtcctc ctgtgggttaa ctgctcttgc catcaagtgc 100

accctcattg acagccaagc acagtatcca gttgtcaaca caaattatgg 150

caaaatccgg ggcctaagaa caccgttacc caatgagatc ttgggtccag 200

tggagcagta cttaggggtc ccctatgcct cccccccac tggagagagg 250

cggtttcagc cccagaacc cccgtcctcc tggactggca tccgaaatac 300

tactcagttt gctgctgtgt gccccagca cctggatgag agatccttac 350

tgcatgacat gctgcccac tggtttaccg ccaatttgga tactttgatg 400

acctatgttc aagatcaaaa tgaagactgc ctttacttaa acatctacgt 450

gccacaggaa gatggagcca acacaaagaa aaacgcagat gatataacga 500

gtaatgaccg tggatgaagac gaagatatcc atgacagaa cagtaagaag 550

cccgatcatg tctatatcca tgggggatct tacatggagg gcaccggcaa 600

catgattgac ggcagcattt tggcaagcta cggaacgctc atcgtgatca 650







gctcctcttc	ctcaacatct	tagcttttgc	ggcgtgttac	tacaaaaagg	2150
acaagaggcg	ccatgagact	cacaggcgcc	ccagtcccca	gagaaacacc	2200
acaaatgata	tcgctcatat	ccagaacgaa	gagatcatgt	ctctgcagat	2250
gaagcagctg	gaacacgatc	acgagtgtga	gtcgtgcag	gcacacgaca	2300
cactgaggct	cacctgccc	ccagactaca	ccctcacgct	gcgcgggtcg	2350
ccagatgaca	tcccacttat	gacgccaaac	accatcacca	tgattccaaa	2400
cacactgacg	gggatgcagc	ctttgcacac	ttttaacacc	ttcagtggag	2450
gacaaaacag	tacaaattta	ccccacggac	attccaccac	tagagtatag	2500
ctttgcccta	tttcccttcc	tatccctctg	ccctacccgc	tcagcaacat	2550
agaagaggga	aggaaagaga	gaaggaaaga	gagagagaaa	gaaagtctcc	2600
agaccaggaa	tgtttttgtc	ccactgactt	aagacaaaaa	tgcaaaaagg	2650
cagtcatccc	atcccggcag	acccttatcg	ttggtgtttt	ccagtattac	2700
aagatcaact	tctgaccctg	tgaaatgtga	gaagtacaca	tttctgttaa	2750
aataactgct	ttaagatctc	taccactcca	atcaatgttt	agtgtgatag	2800
gacatcacca	tttcaaggcc	cgggtgtttt	ccaacgtcat	ggaagcagct	2850
gacacttctg	aaactcagcc	aaggacactt	gatatttttt	aattacaatg	2900
gaagtttaaa	catttctttc	tgtgccacac	aatggatggc	tctccttaag	2950
tgaagaaaga	gtcaatgaga	ttttgccag	cacatggagc	tgtaatccag	3000
agagaaggaa	acgtagaaat	ttattattaa	aagaatggac	tgtgcagcga	3050
aatctgtacg	gttctgtgca	aagaggtgtt	ttgccagcct	gaactatatt	3100
taagagactt	tgt	3113			

<210> 375

<211> 816

<212> PRT

<400> 375

1                      5                      10                      15

5

10

15

Lys Phe Thr Leu Ile Asp Ser Gln Ala Gln Tyr Pro Val Val Asn

20

25

30

Thr Asn Tyr Gly Lys Ile Arg Gly Leu Arg Thr Pro Leu Pro Asn

35

40

45

Glu Ile Leu Gly Pro Val Glu Gln Tyr Leu Gly Val Pro Tyr Ala



				50					55					60
Ser	Pro	Pro	Thr	Gly 65	Glu	Arg	Arg	Phe	Gln 70	Pro	Pro	Glu	Pro	Pro 75
Ser	Ser	Trp	Thr	Gly 80	Ile	Arg	Asn	Thr	Thr 85	Gln	Phe	Ala	Ala	Val 90
Cys	Pro	Gln	His	Leu 95	Asp	Glu	Arg	Ser	Leu 100	Leu	His	Asp	Met	Leu 105
Pro	Ile	Trp	Phe	Thr 110	Ala	Asn	Leu	Asp	Thr 115	Leu	Met	Thr	Tyr	Val 120
Gln	Asp	Gln	Asn	Glu 125	Asp	Cys	Leu	Tyr	Leu 130	Asn	Ile	Tyr	Val	Pro 135
Thr	Glu	Asp	Gly	Ala 140	Asn	Thr	Lys	Lys	Asn 145	Ala	Asp	Asp	Ile	Thr 150
Ser	Asn	Asp	Arg	Gly 155	Glu	Asp	Glu	Asp	Ile 160	His	Asp	Gln	Asn	Ser 165
Lys	Lys	Pro	Val	Met 170	Val	Tyr	Ile	His	Gly 175	Gly	Ser	Tyr	Met	Glu 180
Gly	Thr	Gly	Asn	Met 185	Ile	Asp	Gly	Ser	Ile 190	Leu	Ala	Ser	Tyr	Gly 195
Asn	Val	Ile	Val	Ile 200	Thr	Ile	Asn	Tyr	Arg 205	Leu	Gly	Ile	Leu	Gly 210
Phe	Leu	Ser	Thr	Gly 215	Asp	Gln	Ala	Ala	Lys 220	Gly	Asn	Tyr	Gly	Leu 225
Leu	Asp	Gln	Ile	Gln 230	Ala	Leu	Arg	Trp	Ile 235	Glu	Glu	Asn	Val	Gly 240
Ala	Phe	Gly	Gly	Asp 245	Pro	Lys	Arg	Val	Thr 250	Ile	Phe	Gly	Ser	Gly 255
Ala	Gly	Ala	Ser	Cys 260	Val	Ser	Leu	Leu	Thr 265	Leu	Ser	His	Tyr	Ser 270
Glu	Gly	Leu	Phe	Gln 275	Lys	Ala	Ile	Ile	Gln 280	Ser	Gly	Thr	Ala	Leu 285
Ser	Ser	Trp	Ala	Val 290	Asn	Tyr	Gln	Pro	Ala 295	Lys	Tyr	Thr	Arg	Ile 300
Leu	Ala	Asp	Lys	Val 305	Gly	Cys	Asn	Met	Leu 310	Asp	Thr	Thr	Asp	Met 315
Val	Glu	Cys	Leu	Arg 320	Asn	Lys	Asn	Tyr	Lys 325	Glu	Leu	Ile	Gln	Gln 330
Thr	Ile	Thr	Pro	Ala 335	Thr	Tyr	His	Ile	Ala 340	Phe	Gly	Pro	Val	Ile 345



Asp	Gly	Asp	Val	Ile	Pro	Asp	Asp	Pro	Gln	Ile	Leu	Met	Glu	Gln
				350					355					360
Gly	Glu	Phe	Leu	Asn	Tyr	Asp	Ile	Met	Leu	Gly	Val	Asn	Gln	Gly
				365					370					375
Glu	Gly	Leu	Lys	Phe	Val	Asp	Gly	Ile	Val	Asp	Asn	Glu	Asp	Gly
				380					385					390
Val	Thr	Pro	Asn	Asp	Phe	Asp	Phe	Ser	Val	Ser	Asn	Phe	Val	Asp
				395					400					405
Asn	Leu	Tyr	Gly	Tyr	Pro	Glu	Gly	Lys	Asp	Thr	Leu	Arg	Glu	Thr
				410					415					420
Ile	Lys	Phe	Met	Tyr	Thr	Asp	Trp	Ala	Asp	Lys	Glu	Asn	Pro	Glu
				425					430					435
Thr	Arg	Arg	Lys	Thr	Leu	Val	Ala	Leu	Phe	Thr	Asp	His	Gln	Trp
				440					445					450
Val	Ala	Pro	Ala	Val	Ala	Ala	Asp	Leu	His	Ala	Gln	Tyr	Gly	Ser
				455					460					465
Pro	Thr	Tyr	Phe	Tyr	Ala	Phe	Tyr	His	His	Cys	Gln	Ser	Glu	Met
				470					475					480
Lys	Pro	Ser	Trp	Ala	Asp	Ser	Ala	His	Gly	Asp	Glu	Val	Pro	Tyr
				485					490					495
Val	Phe	Gly	Ile	Pro	Met	Ile	Gly	Pro	Thr	Glu	Leu	Phe	Ser	Cys
				500					505					510
Asn	Phe	Ser	Lys	Asn	Asp	Val	Met	Leu	Ser	Ala	Val	Val	Met	Thr
				515					520					525
Tyr	Trp	Thr	Asn	Phe	Ala	Lys	Thr	Gly	Asp	Pro	Asn	Gln	Pro	Val
				530					535					540
Pro	Gln	Asp	Thr	Lys	Phe	Ile	His	Thr	Lys	Pro	Asn	Arg	Phe	Glu
				545					550					555
Glu	Val	Ala	Trp	Ser	Lys	Tyr	Asn	Pro	Lys	Asp	Gln	Leu	Tyr	Leu
				560					565					570
His	Ile	Gly	Leu	Lys	Pro	Arg	Val	Arg	Asp	His	Tyr	Arg	Ala	Thr
				575					580					585
Lys	Val	Ala	Phe	Trp	Leu	Glu	Leu	Val	Pro	His	Leu	His	Asn	Leu
				590					595					600
Asn	Glu	Ile	Phe	Gln	Tyr	Val	Ser	Thr	Thr	Thr	Lys	Val	Pro	Pro
				605					610					615
Pro	Asp	Met	Thr	Ser	Phe	Pro	Tyr	Gly	Thr	Arg	Arg	Ser	Pro	Ala
				620					625					630
Lys	Ile	Trp	Pro	Thr	Thr	Lys	Arg	Pro	Ala	Ile	Thr	Pro	Ala	Asn







aacccccgag ccaaaagatg gtcac 25

<210> 378

<211> 47

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 378

gtaccggtga ccaggcagca aaaggcaact atgggctcct ggatcag 47

<210> 379

<211> 2461

<212> DNA

<213> Homo sapiens

<400> 379

gggaaagatg gcggcgactc tgggaccct tgggtcgtgg cagcagtggc 50  
ggcgatgttt gtcggctcgg gatgggtcca ggatgttact ccttcttctt 100  
ttgttgggggt ctgggcaggg gccacagcaa gtcggggcgg gtcaaacgtt 150  
cgagtacttg aaacgggagc actcgtctgc gaagccctac cagggtgttg 200  
gcacaggcag ttcctcactg tggaatctga tgggcaatgc catggtgatg 250  
accagtata tccgccttac ccagatatg caaagtaaac aggtgcctt 300  
gtggaaccgg gtgccatgtt tcctgagaga ctgggagttg cagggtgcact 350  
tcaaaatcca tggacaagga aagaagaatc tgcatgggga tggcttgga 400  
atctggtaca caaaggatcg gatgcagcca gggcctgtgt ttggaaacat 450  
ggacaaatth gtggggctgg gagtatttgt agacacctac cccaatgagg 500  
agaagcagca agagcgggta ttcccctaca tctcagccat ggtgaacaac 550  
ggctccctca gctatgatca tgagcgggat gggcggccta cagagctggg 600  
aggctgcaca gccattgtcc gcaatcttca ttacgacacc ttcttgggtga 650  
ttcgtctagt caagaggcat ttgacgataa tgatggatat tgatggcaag 700  
catgagtgga gggactgcat tgaagtgccg ggagtccgcc tgccccgcgg 750  
ctactacttc ggcacctcct ccatcactgg ggatctctca gataatcatg 800  
atgtcatttc cttgaagttg tttgaactga cagtggagag aacccagaa 850  
gaggaaaagc tccatcgaga tgtgttcttg ccctcagtgg acaatatgaa 900  
gctgcctgag atgacagctc cactgccgcc cctgagtggc ctggccctct 950  
tcctcatcgt ctttttctcc ctgggtgttt ctgtatttgc catagtcatt 1000







ggccgcatg g 2461

<210> 380

<211> 348

<212> PRT

<213> Homo sapiens

<400> 380

Met	Ala	Ala	Thr	Leu	Gly	Pro	Leu	Gly	Ser	Trp	Gln	Gln	Trp	Arg
1				5					10					15
Arg	Cys	Leu	Ser	Ala	Arg	Asp	Gly	Ser	Arg	Met	Leu	Leu	Leu	Leu
				20					25					30
Leu	Leu	Leu	Gly	Ser	Gly	Gln	Gly	Pro	Gln	Gln	Val	Gly	Ala	Gly
				35					40					45
Gln	Thr	Phe	Glu	Tyr	Leu	Lys	Arg	Glu	His	Ser	Leu	Ser	Lys	Pro
				50					55					60
Tyr	Gln	Gly	Val	Gly	Thr	Gly	Ser	Ser	Ser	Leu	Trp	Asn	Leu	Met
				65					70					75
Gly	Asn	Ala	Met	Val	Met	Thr	Gln	Tyr	Ile	Arg	Leu	Thr	Pro	Asp
				80					85					90
Met	Gln	Ser	Lys	Gln	Gly	Ala	Leu	Trp	Asn	Arg	Val	Pro	Cys	Phe
				95					100					105
Leu	Arg	Asp	Trp	Glu	Leu	Gln	Val	His	Phe	Lys	Ile	His	Gly	Gln
				110					115					120
Gly	Lys	Lys	Asn	Leu	His	Gly	Asp	Gly	Leu	Ala	Ile	Trp	Tyr	Thr
				125					130					135
Lys	Asp	Arg	Met	Gln	Pro	Gly	Pro	Val	Phe	Gly	Asn	Met	Asp	Lys
				140					145					150
Phe	Val	Gly	Leu	Gly	Val	Phe	Val	Asp	Thr	Tyr	Pro	Asn	Glu	Glu
				155					160					165
Lys	Gln	Gln	Glu	Arg	Val	Phe	Pro	Tyr	Ile	Ser	Ala	Met	Val	Asn
				170					175					180
Asn	Gly	Ser	Leu	Ser	Tyr	Asp	His	Glu	Arg	Asp	Gly	Arg	Pro	Thr
				185					190					195
Glu	Leu	Gly	Gly	Cys	Thr	Ala	Ile	Val	Arg	Asn	Leu	His	Tyr	Asp
				200					205					210
Thr	Phe	Leu	Val	Ile	Arg	Tyr	Val	Lys	Arg	His	Leu	Thr	Ile	Met
				215					220					225
Met	Asp	Ile	Asp	Gly	Lys	His	Glu	Trp	Arg	Asp	Cys	Ile	Glu	Val
				230					235					240
Pro	Gly	Val	Arg	Leu	Pro	Arg	Gly	Tyr	Tyr	Phe	Gly	Thr	Ser	Ser
				245					250					255



Ile	Thr	Gly	Asp	Leu	Ser	Asp	Asn	His	Asp	Val	Ile	Ser	Leu	Lys
				260					265					270
Leu	Phe	Glu	Leu	Thr	Val	Glu	Arg	Thr	Pro	Glu	Glu	Glu	Lys	Leu
				275					280					285
His	Arg	Asp	Val	Phe	Leu	Pro	Ser	Val	Asp	Asn	Met	Lys	Leu	Pro
				290					295					300
Glu	Met	Thr	Ala	Pro	Leu	Pro	Pro	Leu	Ser	Gly	Leu	Ala	Leu	Phe
				305					310					315
Leu	Ile	Val	Phe	Phe	Ser	Leu	Val	Phe	Ser	Val	Phe	Ala	Ile	Val
				320					325					330
Ile	Gly	Ile	Ile	Leu	Tyr	Asn	Lys	Trp	Gln	Glu	Gln	Ser	Arg	Lys
				335					340					345

Arg Phe Tyr

<210> 381  
 <211> 22  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 381  
 ccttgggtcg tggcagcagt gg 22

<210> 382  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 382  
 cactctccag gctgcatgct cagg 24

<210> 383  
 <211> 45  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 383  
 gtcaaacgtt cgagtacttg aaacgggagc actcgctgtc gaagc 45

<210> 384  
 <211> 3150  
 <212> DNA  
 <213> Homo sapiens



<400> 384

ccgagccggg cgcgcagcga cggagctggg gccggcctgg gaccatgggc 50  
gtgagtgcaa tctacggatc agtctctgat ggtgggtcgt taacctcagt 100  
ggggactcca agatttccat gaagaaaatc agttgtcttc attcaagaat 150  
tggggtctgg ctcagaattc ctgcagctgg tgaaaatctg ttttctagaa 200  
gaggtttaat taatgcctgc agtctgacat gttcccgatt tgaggtgaaa 250  
ccatgaagag aaaatagaat acttaataat gcttttccgc aaccgcttct 300  
tgctgctgct ggccctggct gcgctgctgg cctttgtgag cctcagcctg 350  
cagttcttcc acctgatccc ggtgtcgact cctaagaatg gaatgagtag 400  
caagagtcga aagagaatca tgcccgaacc tgtgacggag ccccctgtga 450  
cagaccccgt ttatgaagct cttttgtact gcaacatccc cagtgtggcc 500  
gagcgcagca tggaaggta tgcccgcac cattttaagc tgggtctcagt 550  
gcatgtgttc attcgccacg gagacaggta cccactgtat gtcattccca 600  
aaacaaagcg accagaaatt gactgcactc tgggtggctaa caggaaaccg 650  
tatcacccaa aactggaagc tttcattagt cacatgtcaa aaggatccgg 700  
agcctctttc gaaagcccct tgaactcctt gcctctttac ccaaaccacc 750  
cattgtgtga gatgggagag ctacacaga caggagttgt gcagcatttg 800  
cagaacggtc agctgctgag ggatatctat ctaaagaaac acaaactcct 850  
gcccaatgat tgggtctgcag accagctcta tttagagacc actgggaaaa 900  
gccggaccct acaaagtggg ctggccttgc tttatggctt tctcccagat 950  
tttgactgga agaagattta tttcaggcac cagccaagtg cgctgttctg 1000  
ctctggaagc tgctattgcc cggttaagaaa ccagtatctg gaaaaggagc 1050  
agcgtcgtca gtacctccta cgtttgaaaa acagccagct ggagaagacc 1100  
tacggggaga tggccaagat cgtggatgtc cccaccaagc agcttagagc 1150  
tgccaacccc atagactcca tgctctgcca cttctgccac aatgtcagct 1200  
ttccctgtac cagaaatggc tgtgttgaca tggagcactt caaggtaatt 1250  
aagaccatc agatcgagga tgaaagggaa agacgggaga agaaattgta 1300  
cttcgggtat tctctcctgg gtgcccacc catcctgaac caaaccatcg 1350  
gcgggatgca gcgtgccacc gagggcagga aagaagagct ctttgccctc 1400  
tactctgctc atgatgtcac tctgtcacca gttctcagt ccttgggcct 1450



ttcagaagcc	aggttcccaa	ggtttgcagc	caggttgatc	tttgagcttt	1500
ggcaagacag	agaaaagccc	agtgaacatt	ccgtccggat	tctttacaat	1550
ggcgtcgatg	tcacattcca	cacctctttc	tgccaagacc	accacaagcg	1600
ttctcccaag	cccatgtgcc	cgcttgaaaa	cttggtcgcg	tttgtgaaaa	1650
gggacatggt	tgtagccctg	ggtggcagtg	gtacaaatta	ttatgatgca	1700
tgtcacaggg	aaggattcta	aaaggatatgc	agtacagcag	tatagaatcc	1750
atgccaatac	agagcatagg	gaaagggtcca	cttctagttt	tgtctgttac	1800
taagggtaga	agattattgc	tttttaagg	ctaaatattg	tttgtgggaa	1850
ccacagatgg	ttggggttga	acagtaagca	cattgctgca	atgtggtacg	1900
tgaattgctt	ggtacaaaat	ggccagttca	cagaggaata	gaaggtaact	1950
tatcatagcc	agacttcgct	tagaatgcca	gaataatata	gttcaagacc	2000
tgaagttgcc	aatccaagtt	tgcactcttc	tggcctgccc	catgttacta	2050
tgtgatggaa	ccagcacacc	tcaaccaaaa	tttttttaat	cttagacatt	2100
tttaccttgt	ccttgttaag	aatttcttga	agtgatttat	ctaaaataaa	2150
ggttggcaaa	ctttttctgt	aaagggccag	attgtaaata	tttcagactg	2200
tgtggacca	aaggccacat	acagtctctg	tcataactac	tcaactctgt	2250
ttctgaagca	ggaaagccac	cacagacagt	acataaagga	atatgtgtag	2300
ctgggttccc	aggccagaca	aaacagatgg	tgaccagact	tggcccoctgg	2350
gctgtagttt	gctgaccoc	catctaaaaa	ataggctata	ctacaattgc	2400
acttccagca	ctttgagaac	gagttgaata	ccaagaatta	ttcaatgggt	2450
cctccagtaa	cttctgctag	aaacacagaa	tttggctctgt	atctgacact	2500
agaacaaaac	ttgagggtaa	ataaacattg	aattagaatg	aatcatagaa	2550
aactgattag	agaataactt	gatgtttatg	atgattgtgg	tacaagatag	2600
ttttaagtat	gttctaaata	tttgtctgct	gtagtctatt	tgctgtatat	2650
gctgaaat	ttgtatgcca	tttagtattt	ttatagttta	ggaaaatatt	2700
ttctaagacc	agtttttagat	gactcttatt	cctgtagtaa	tattcaat	2750
gctgtacctg	cttggtggtt	agaaggaggc	tagaagatga	attcaggcac	2800
tttcttccaa	taaaactaat	tatggctcat	tccctttgac	aagctgtaga	2850
actggattca	tttttaaac	attttcatca	gtttcaaatg	gtaaattctg	2900



attgattttt aaatgcgttt ttggaagaac ttigtctatta ggtagtttac 2950  
 agatctttat aagggtgtttt atatattaga agcaattata attacatctg 3000  
 tgattttctga actaatggtg ctaattcaga gaaatggaaa gtgaaagtga 3050  
 gattctctgt tgtcatcggc attccaactt tttctctttg tttttgtcca 3100  
 gtgttgcatc tgaatatgtc tgtttctata aataaatttt ttaagaataa 3150

<210> 385

<211> 480

<212> PRT

<213> Homo sapiens

<400> 385

Met	Leu	Phe	Arg	Asn	Arg	Phe	Leu	Leu	Leu	Leu	Ala	Leu	Ala	Ala	1	5	10	15
Leu	Leu	Ala	Phe	Val	Ser	Leu	Ser	Leu	Gln	Phe	Phe	His	Leu	Ile	20	25	30	
Pro	Val	Ser	Thr	Pro	Lys	Asn	Gly	Met	Ser	Ser	Lys	Ser	Arg	Lys	35	40	45	
Arg	Ile	Met	Pro	Asp	Pro	Val	Thr	Glu	Pro	Pro	Val	Thr	Asp	Pro	50	55	60	
Val	Tyr	Glu	Ala	Leu	Leu	Tyr	Cys	Asn	Ile	Pro	Ser	Val	Ala	Glu	65	70	75	
Arg	Ser	Met	Glu	Gly	His	Ala	Pro	His	His	Phe	Lys	Leu	Val	Ser	80	85	90	
Val	His	Val	Phe	Ile	Arg	His	Gly	Asp	Arg	Tyr	Pro	Leu	Tyr	Val	95	100	105	
Ile	Pro	Lys	Thr	Lys	Arg	Pro	Glu	Ile	Asp	Cys	Thr	Leu	Val	Ala	110	115	120	
Asn	Arg	Lys	Pro	Tyr	His	Pro	Lys	Leu	Glu	Ala	Phe	Ile	Ser	His	125	130	135	
Met	Ser	Lys	Gly	Ser	Gly	Ala	Ser	Phe	Glu	Ser	Pro	Leu	Asn	Ser	140	145	150	
Leu	Pro	Leu	Tyr	Pro	Asn	His	Pro	Leu	Cys	Glu	Met	Gly	Glu	Leu	155	160	165	
Thr	Gln	Thr	Gly	Val	Val	Gln	His	Leu	Gln	Asn	Gly	Gln	Leu	Leu	170	175	180	
Arg	Asp	Ile	Tyr	Leu	Lys	Lys	His	Lys	Leu	Leu	Pro	Asn	Asp	Trp	185	190	195	
Ser	Ala	Asp	Gln	Leu	Tyr	Leu	Glu	Thr	Thr	Gly	Lys	Ser	Arg	Thr	200	205	210	







<220>  
<223> Synthetic oligonucleotide probe

<400> 386  
ccaagcagct tagagctcca gacc 24

<210> 387  
<211> 25  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 387  
ttccctatgc tctgtattgg catgg 25

<210> 388  
<211> 50  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 388  
gccacttctg ccacaatgtc agctttccct gtaccagaaa tggctgtgtt 50

<210> 389  
<211> 3313  
<212> DNA  
<213> Homo sapiens

<400> 389  
aaaaaagctc actaaagttt ctattagagc gaatacggta gatttccatc 50  
cccttttgaa gaacagtact gtggagctat ttaagagata aaaacgaaat 100  
atcctttctg ggagttcaag attgtgcagt aattggttag gactctgagc 150  
gccgctgttc accaatcggg gagagaaaag cggagatcct gctcgccttg 200  
cacgcgcctg aagcaciaag cagatagcta ggaatgaacc atccctggga 250  
gtatgtggaa acaacggagg agctctgact tcccaactgt cccattctat 300  
ggggaagga actgctcctg acttcagtgg ttaagggcag aattgaaaat 350  
aattctggag gaagataaga atgattcctg cgcgactgca ccgggactac 400  
aaagggcttg tcctgctggg aatcctcctg gggactctgt gggagaccgg 450  
atgcacccag atacgctatt cagttccgga agagctggag aaaggctcta 500  
gggtgggcga catctccagg gacctggggc tggagccccg ggagctcgcg 550  
gagcgcggag tccgcatcat cccagaggt aggacgcagc ttttcgccct 600



gaatccgcgc	agcggcagct	tggtcacggc	gggcaggata	gaccgggagg	650
agctctgtat	gggggccatc	aagtgtcaat	taaactctaga	cattctgatg	700
gaggataaag	tgaaaatata	tggagtagaa	gtagaagtaa	gggacattaa	750
cgacaatgcg	ccttactttc	gtgaaagtga	attagaaata	aaaatttagtg	800
aaaatgcagc	cactgagatg	cggttccctc	taccccacgc	ctgggatccg	850
gatatcggga	agaactctct	gcagagctac	gagctcagcc	cgaacactca	900
cttctccctc	atcgtgcaaa	atggagccga	cggtagtaag	taccccgaa	950
tgggtgctgaa	acgcgccttg	gaccgcgaag	aaaaggctgc	tcaccacctg	1000
gtccttacgg	cctccgacgg	gggcgacccg	gtgcgcacag	gcaccgcgcg	1050
catccgcgtg	atggttcttg	atgcgaacga	caacgcacca	gcgtttgctc	1100
agcccagagta	cgcgcgcgagc	gttccggaga	atctggcctt	gggcacgcag	1150
ctgcttgtag	tcaacgctac	cgaccctgac	gaaggagtca	atgcggaagt	1200
gaggtattcc	ttccggtatg	tggacgacaa	ggcggcccaa	gttttcaa	1250
tagattgtaa	ttcagggaca	atatcaacaa	taggggagtt	ggaccacgag	1300
gagtcaggat	tctaccagat	ggaagtgcaa	gcaatggata	atgcaggata	1350
ttctgcgcga	gccaaagtcc	tgatcactgt	tctggacgtg	aacgacaatg	1400
ccccagaagt	ggtcctcacc	tctctcgcca	gctcggttcc	cgaaaactct	1450
cccagaggga	cattaattgc	cctttttaa	gtaaatgacc	aagattctga	1500
ggaaaacgga	caggtgatct	gtttcatcca	aggaaatctg	cccttttaa	1550
tagaaaaatc	ttacggaaat	tactatagtt	tagtcacaga	catagtcttg	1600
gatagggaac	aggttcctag	ctacaacatc	acagtgaccg	ccactgaccg	1650
gggaaccccg	cccctatcca	cggaaactca	tatctcgctg	aacgtggcag	1700
acaccaacga	caacccgcgcg	gtcttccctc	aggcctccta	ttccgcttat	1750
atcccagaga	acaatcccag	aggagtttcc	ctcgtctctg	tgaccgcca	1800
cgaccccgac	tgtgaagaga	acgccagat	cacttattcc	ctggctgaga	1850
acaccatcca	aggggcaagc	ctatcgtcct	acgtgtccat	caactccgac	1900
actggggtag	tgtatgcgct	gagctccttc	gactacgagc	agttccgaga	1950
cttgcaagtg	aaagtgatgg	cgcgggacaa	cgggcacccg	cccctcagca	2000
gcaacgtgtc	gttgagcctg	ttcgtgctgg	accagaacga	caatgcgccc	2050







Met	Ile	Pro	Ala	Arg	Leu	His	Arg	Asp	Tyr	Lys	Gly	Leu	Val	Leu	1	5	10	15
Leu	Gly	Ile	Leu	Leu	Gly	Thr	Leu	Trp	Glu	Thr	Gly	Cys	Thr	Gln	20	25	30	
Ile	Arg	Tyr	Ser	Val	Pro	Glu	Glu	Leu	Glu	Lys	Gly	Ser	Arg	Val	35	40	45	
Gly	Asp	Ile	Ser	Arg	Asp	Leu	Gly	Leu	Glu	Pro	Arg	Glu	Leu	Ala	50	55	60	
Glu	Arg	Gly	Val	Arg	Ile	Ile	Pro	Arg	Gly	Arg	Thr	Gln	Leu	Phe	65	70	75	
Ala	Leu	Asn	Pro	Arg	Ser	Gly	Ser	Leu	Val	Thr	Ala	Gly	Arg	Ile	80	85	90	
Asp	Arg	Glu	Glu	Leu	Cys	Met	Gly	Ala	Ile	Lys	Cys	Gln	Leu	Asn	95	100	105	
Leu	Asp	Ile	Leu	Met	Glu	Asp	Lys	Val	Lys	Ile	Tyr	Gly	Val	Glu	110	115	120	
Val	Glu	Val	Arg	Asp	Ile	Asn	Asp	Asn	Ala	Pro	Tyr	Phe	Arg	Glu	125	130	135	
Ser	Glu	Leu	Glu	Ile	Lys	Ile	Ser	Glu	Asn	Ala	Ala	Thr	Glu	Met	140	145	150	
Arg	Phe	Pro	Leu	Pro	His	Ala	Trp	Asp	Pro	Asp	Ile	Gly	Lys	Asn	155	160	165	
Ser	Leu	Gln	Ser	Tyr	Glu	Leu	Ser	Pro	Asn	Thr	His	Phe	Ser	Leu	170	175	180	
Ile	Val	Gln	Asn	Gly	Ala	Asp	Gly	Ser	Lys	Tyr	Pro	Glu	Leu	Val	185	190	195	
Leu	Lys	Arg	Ala	Leu	Asp	Arg	Glu	Glu	Lys	Ala	Ala	His	His	Leu	200	205	210	
Val	Leu	Thr	Ala	Ser	Asp	Gly	Gly	Asp	Pro	Val	Arg	Thr	Gly	Thr	215	220	225	
Ala	Arg	Ile	Arg	Val	Met	Val	Leu	Asp	Ala	Asn	Asp	Asn	Ala	Pro	230	235	240	
Ala	Phe	Ala	Gln	Pro	Glu	Tyr	Arg	Ala	Ser	Val	Pro	Glu	Asn	Leu	245	250	255	
Ala	Leu	Gly	Thr	Gln	Leu	Leu	Val	Val	Asn	Ala	Thr	Asp	Pro	Asp	260	265	270	
Glu	Gly	Val	Asn	Ala	Glu	Val	Arg	Tyr	Ser	Phe	Arg	Tyr	Val	Asp	275	280	285	
Asp	Lys	Ala	Ala	Gln	Val	Phe	Lys	Leu	Asp	Cys	Asn	Ser	Gly	Thr				







Tyr	Leu	Val	Thr	Lys 590	Val	Val	Ala	Val	Asp 595	Arg	Asp	Ser	Gly	Gln 600
Asn	Ala	Trp	Leu	Ser 605	Tyr	Arg	Leu	Leu	Lys 610	Ala	Ser	Glu	Pro	Gly 615
Leu	Phe	Ser	Val	Gly 620	Leu	His	Thr	Gly	Glu 625	Val	Arg	Thr	Ala	Arg 630
Ala	Leu	Leu	Asp	Arg 635	Asp	Ala	Leu	Lys	Gln 640	Ser	Leu	Val	Val	Ala 645
Val	Gln	Asp	His	Gly 650	Gln	Pro	Pro	Leu	Ser 655	Ala	Thr	Val	Thr	Leu 660
Thr	Val	Ala	Val	Ala 665	Asp	Ser	Ile	Pro	Gln 670	Val	Leu	Ala	Asp	Leu 675
Gly	Ser	Leu	Glu	Ser 680	Pro	Ala	Asn	Ser	Glu 685	Thr	Ser	Asp	Leu	Thr 690
Leu	Tyr	Leu	Val	Val 695	Ala	Val	Ala	Ala	Val 700	Ser	Cys	Val	Phe	Leu 705
Ala	Phe	Val	Ile	Leu 710	Leu	Leu	Ala	Leu	Arg 715	Leu	Arg	Arg	Trp	His 720
Lys	Ser	Arg	Leu	Leu 725	Gln	Ala	Ser	Gly	Gly 730	Gly	Leu	Thr	Gly	Ala 735
Pro	Ala	Ser	His	Phe 740	Val	Gly	Val	Asp	Gly 745	Val	Gln	Ala	Phe	Leu 750
Gln	Thr	Tyr	Ser	His 755	Glu	Val	Ser	Leu	Thr 760	Thr	Asp	Ser	Arg	Lys 765
Ser	His	Leu	Ile	Phe 770	Pro	Gln	Pro	Asn	Tyr 775	Ala	Asp	Met	Leu	Val 780
Ser	Gln	Glu	Ser	Phe 785	Glu	Lys	Ser	Glu	Pro 790	Leu	Leu	Leu	Ser	Gly 795
Asp	Ser	Val	Phe	Ser 800	Lys	Asp	Ser	His	Gly 805	Leu	Ile	Glu	Val	Ser 810
Leu	Tyr	Gln	Ile	Phe 815	Phe	Leu	Phe	Phe	Phe 820	Asn	Cys	Ser	Val	Ser 825
Gln	Ala	Gly	Val	Gln 830	Arg	Tyr	Asp	His	Ser 835	Ser	Leu	Arg	Pro	Gln 840
Thr	Pro	Arg	Leu	Lys 845	Gln	Leu	Ser	His	Leu 850	Cys	Leu	Arg	Cys	Asn 855
Arg	Asp	Tyr	Arg	Cys 860	Lys	Pro	Pro	Thr	Val 865	Cys	Leu	Ser	Ile	Tyr 870
Leu	Ser	Ile	Tyr	Leu	Ser	Ile	Tyr	Leu	Ser	Ile	Tyr	Leu	Leu	Leu



875

880

885

Ser Cys Thr Asp Gly Ser Leu Thr Pro Val Ile Pro Val Leu Trp  
890 895 900

Glu Ala Glu Ala Gly Gly Ser Pro Glu Val Gly Ser Leu Arg Pro  
905 910 915

Ala

&lt;210&gt; 391

&lt;211&gt; 23

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Synthetic oligonucleotide probe

&lt;400&gt; 391

tccgtctctg tgaaccgccc cac 23

&lt;210&gt; 392

&lt;211&gt; 24

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Synthetic oligonucleotide probe

&lt;400&gt; 392

ctcgggcgcga ttgtcgttct ggtc 24

&lt;210&gt; 393

&lt;211&gt; 40

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Synthetic oligonucleotide probe

&lt;400&gt; 393

ccgactgtga aagagaacgc cccagatcca ctgtgtcccc 40

&lt;210&gt; 394

&lt;211&gt; 999

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 394

cccaggctct agtgcaggag gagaaggagg aggagcagga ggtggagatt 50

cccagttaaa aggctccaga atcgtgtacc aggagagaaa ctgaagtact 100

ggggcctcct ccaactgggtc cgaatcagta ggtgaccccg cccctggatt 150

ctggaagacc tcaccatggg acgccccga cctcgtgctg ccaagacgtg 200



gatgttcctg ctcttgctgg ggggagcctg ggcaggacac tccagggcac 250  
aggaggacaa ggtgctgggg ggtcatgagt gccaacccca ttgcagcct 300  
tggcaggcgg ccttggtcca gggccagcaa ctactctgtg gcggtgtcct 350  
tgtagggtggc aactgggtcc ttacagctgc ccactgtaaa aaaccgaaat 400  
acacagtacg cctgggagac cacagcctac agaataaaga tggcccagag 450  
caagaaatac ctgtggttca gtccatccca caccctgtct acaacagcag 500  
cgatgtggag gaccacaacc atgatctgat gcttcttcaa ctgcgtgacc 550  
aggcatccct ggggtccaaa gtgaagccca tcagcctggc agatcattgc 600  
accagcctg gccagaagtg caccgtctca ggctggggca ctgtcaccag 650  
tccccgagag aattttcctg acactctcaa ctgtgcagaa gtaaaaatct 700  
ttccccagaa gaagtgtgag gatgcttacc cggggcagat cacagatggc 750  
atggtctgtg caggcagcag caaaggggct gacacgtgcc agggcgattc 800  
tgagggcccc ctggtgtgtg atggtgcact ccagggcata acatcctggg 850  
gctcagaccc ctgtgggagg tccgacaaac ctggcgtcta taccaacatc 900  
tgccgctacc tggactggat caagaagatc ataggcagca agggctgatt 950  
ctaggataag cactagatct cccttaataa actcacaact ctctggttc 999

<210> 395

<211> 260

<212> PRT

<213> Homo sapiens

<400> 395

Met	Gly	Arg	Pro	Arg	Pro	Arg	Ala	Ala	Lys	Thr	Trp	Met	Phe	Leu
1				5					10					15
Leu	Leu	Leu	Gly	Gly	Ala	Trp	Ala	Gly	His	Ser	Arg	Ala	Gln	Glu
			20						25					30
Asp	Lys	Val	Leu	Gly	Gly	His	Glu	Cys	Gln	Pro	His	Ser	Gln	Pro
			35						40					45
Trp	Gln	Ala	Ala	Leu	Phe	Gln	Gly	Gln	Gln	Leu	Leu	Cys	Gly	Gly
			50						55					60
Val	Leu	Val	Gly	Gly	Asn	Trp	Val	Leu	Thr	Ala	Ala	His	Cys	Lys
			65						70					75
Lys	Pro	Lys	Tyr	Thr	Val	Arg	Leu	Gly	Asp	His	Ser	Leu	Gln	Asn
			80						85					90
Lys	Asp	Gly	Pro	Glu	Gln	Glu	Ile	Pro	Val	Val	Gln	Ser	Ile	Pro
			95						100					105



His	Pro	Cys	Tyr	Asn	Ser	Ser	Asp	Val	Glu	Asp	His	Asn	His	Asp	110	115	120
Leu	Met	Leu	Leu	Gln	Leu	Arg	Asp	Gln	Ala	Ser	Leu	Gly	Ser	Lys	125	130	135
Val	Lys	Pro	Ile	Ser	Leu	Ala	Asp	His	Cys	Thr	Gln	Pro	Gly	Gln	140	145	150
Lys	Cys	Thr	Val	Ser	Gly	Trp	Gly	Thr	Val	Thr	Ser	Pro	Arg	Glu	155	160	165
Asn	Phe	Pro	Asp	Thr	Leu	Asn	Cys	Ala	Glu	Val	Lys	Ile	Phe	Pro	170	175	180
Gln	Lys	Lys	Cys	Glu	Asp	Ala	Tyr	Pro	Gly	Gln	Ile	Thr	Asp	Gly	185	190	195
Met	Val	Cys	Ala	Gly	Ser	Ser	Lys	Gly	Ala	Asp	Thr	Cys	Gln	Gly	200	205	210
Asp	Ser	Gly	Gly	Pro	Leu	Val	Cys	Asp	Gly	Ala	Leu	Gln	Gly	Ile	215	220	225
Thr	Ser	Trp	Gly	Ser	Asp	Pro	Cys	Gly	Arg	Ser	Asp	Lys	Pro	Gly	230	235	240
Val	Tyr	Thr	Asn	Ile	Cys	Arg	Tyr	Leu	Asp	Trp	Ile	Lys	Lys	Ile	245	250	255
Ile	Gly	Ser	Lys	Gly											260		

<210> 396

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 396

cagcctacag aataaagatg gcc 24

<210> 397

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 397

ggtgcaatga tctgccaggc tgat 24

<210> 398

<211> 48

<212> DNA



<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 398

agaaatacct gtggttcagt ccatcccaaa cccctgctac aacagcag 48

<210> 399

<211> 2236

<212> DNA

<213> Homo sapiens

<400> 399

ggcgccggtg caccggggcg gctgagcgcc tcctgcggcc cggcctgcgc 50  
gccccggccc gccgcgccgc ccacgcccc accccggccc gcgcccccta 100  
gccccgccc gggcccgcg cgcgcgccgc gccaggtga gcgctccgcc 150  
cgccgcgagg ccccgcccc gcccgcgcc gcccgcccc ggccggcggg 200  
ggaaccgggc ggattcctcg cgcgtcaaac cacctgatcc cataaaacat 250  
tcacctccc ggcgggccgc gctgcgagcg ccccgccagt ccgcgccgc 300  
gccgccctcg ccctgtgcgc cctgcgcgcc ctgcgcaccc gcggcccag 350  
cccagccaga gccggggcga ggggagcgcg ccgagcctcg tcccgcggcc 400  
gggcccgggc cgggcccgtag cggcgggcgcc tggatgcgga cccggccgcg 450  
gggagacggg cgcccgcccc gaaacgactt tcagtcccc acgcgccccg 500  
cccaaccct acgatgaaga gggcgctccgc tggaggagc cggctgctgg 550  
catgggtgct gtggctgcag gcctggcagg tggcagcccc atgccagggt 600  
gcctgcgtat gctacaatga gcccagggtg acgacaagct gccccagca 650  
gggcctgcag gctgtgccc tgggcatccc tgctgccagc cagcgcatct 700  
tcctgcacgg caacgcgcatc tcgcatgtgc cagctgccag cttccgtgcc 750  
tgccgcaacc tcaccatcct gtggctgcac tcgaatgtgc tggcccgaat 800  
tgatgcggct gccttactg gcctggccct cctggagcag ctggacctca 850  
gcgataatgc acagctccgg tctgtggacc ctgccacatt ccacggcctg 900  
ggccgcctac acacgctgca cctggaccgc tgcggcctgc aggagctggg 950  
cccggggctg ttccgcggcc tggctgccct gcagtacctc tacctgcagg 1000  
acaacgcgct gcaggcactg cctgatgaca cttccgcga cctgggcaac 1050  
ctcacacacc tcttcctgca cggcaaccgc atctccagcg tgcccagcg 1100







Cys	Val	Cys	Tyr	Asn	Glu	Pro	Lys	Val	Thr	Thr	Ser	Cys	Pro	Gln
				35					40					45
Gln	Gly	Leu	Gln	Ala	Val	Pro	Val	Gly	Ile	Pro	Ala	Ala	Ser	Gln
				50					55					60
Arg	Ile	Phe	Leu	His	Gly	Asn	Arg	Ile	Ser	His	Val	Pro	Ala	Ala
				65					70					75
Ser	Phe	Arg	Ala	Cys	Arg	Asn	Leu	Thr	Ile	Leu	Trp	Leu	His	Ser
				80					85					90
Asn	Val	Leu	Ala	Arg	Ile	Asp	Ala	Ala	Ala	Phe	Thr	Gly	Leu	Ala
				95					100					105
Leu	Leu	Glu	Gln	Leu	Asp	Leu	Ser	Asp	Asn	Ala	Gln	Leu	Arg	Ser
				110					115					120
Val	Asp	Pro	Ala	Thr	Phe	His	Gly	Leu	Gly	Arg	Leu	His	Thr	Leu
				125					130					135
His	Leu	Asp	Arg	Cys	Gly	Leu	Gln	Glu	Leu	Gly	Pro	Gly	Leu	Phe
				140					145					150
Arg	Gly	Leu	Ala	Ala	Leu	Gln	Tyr	Leu	Tyr	Leu	Gln	Asp	Asn	Ala
				155					160					165
Leu	Gln	Ala	Leu	Pro	Asp	Asp	Thr	Phe	Arg	Asp	Leu	Gly	Asn	Leu
				170					175					180
Thr	His	Leu	Phe	Leu	His	Gly	Asn	Arg	Ile	Ser	Ser	Val	Pro	Glu
				185					190					195
Arg	Ala	Phe	Arg	Gly	Leu	His	Ser	Leu	Asp	Arg	Leu	Leu	Leu	His
				200					205					210
Gln	Asn	Arg	Val	Ala	His	Val	His	Pro	His	Ala	Phe	Arg	Asp	Leu
				215					220					225
Gly	Arg	Leu	Met	Thr	Leu	Tyr	Leu	Phe	Ala	Asn	Asn	Leu	Ser	Ala
				230					235					240
Leu	Pro	Thr	Glu	Ala	Leu	Ala	Pro	Leu	Arg	Ala	Leu	Gln	Tyr	Leu
				245					250					255
Arg	Leu	Asn	Asp	Asn	Pro	Trp	Val	Cys	Asp	Cys	Arg	Ala	Arg	Pro
				260					265					270
Leu	Trp	Ala	Trp	Leu	Gln	Lys	Phe	Arg	Gly	Ser	Ser	Ser	Glu	Val
				275					280					285
Pro	Cys	Ser	Leu	Pro	Gln	Arg	Leu	Ala	Gly	Arg	Asp	Leu	Lys	Arg
				290					295					300
Leu	Ala	Ala	Asn	Asp	Leu	Gln	Gly	Cys	Ala	Val	Ala	Thr	Gly	Pro
				305					310					315
Tyr	His	Pro	Ile	Trp	Thr	Gly	Arg	Ala	Thr	Asp	Glu	Glu	Pro	Leu







<220>

<223> Synthetic oligonucleotide probe

<400> 403

aggcactgcc tgatgacacc ttccgcgacc tgggcaacct cacac 45

<210> 404

<211> 2738

<212> DNA

<213> Homo sapiens

<400> 404

ggaagtccac ggggagcttg gatgccaaag ggaggacggc tgggtcctct 50  
ggagaggact actcactggc atattttctga ggtatctgta gaataaccac 100  
agcctcagat actggggact ttacagtccc acagaaccgt cctcccagga 150  
agctgaatcc agcaagaaca atggaggcca gcgggaagct catttgca 200  
caaaggcaag tccttttttc ctttctcctt ttgggcttat ctctggcggg 250  
cgcggcggaa cctagaagct attctgtggt ggaggaaact gagggcagct 300  
cctttgtcac caatttagca aaggacctgg gtctggagca gaggaattc 350  
tccaggcggg gggttagggg tgtttccaga gggaacaaac tacatttgca 400  
gctcaatcag gagaccgcgg atttggtgct aaatgagaaa ttggaccgtg 450  
aggatctgtg cggtcacaca gagccctgtg tgctacgttt ccaagtgttg 500  
ctagagagtc ccttcgagtt ttttcaagct gagctgcaag taatagacat 550  
aaacgaccac tctccagtat ttctggacaa acaaagtgtg gtgaaagtat 600  
cagagagcag tcctcctggg actacgtttc ctctgaagaa tgccgaagac 650  
ttagatgtag gccaaaacaa tattgagaac tatataatca gcccactc 700  
ctattttcgg gtccctaccc gcaaacgcag tgatggcagg aaatacccag 750  
agctggtgct ggacaaagcg ctggaccgag aggaagaagc tgagctcagg 800  
ttaacactca cagcactgga tgggtggctct ccgccagat ctggcactgc 850  
tcaggtctac atogaagtcc tggatgtcaa cgataatgcc cctgaatttg 900  
agcagccttt ctatagagtg cagatctctg aggacagtcc ggtaggcttc 950  
ctggttggtga aggtctctgc cacggatgta gacacaggag tcaacggaga 1000  
gatttcctat tcacttttcc aagcttcaga agagattggc aaaaccttta 1050  
agatcaatcc cttgacagga gaaattgaac taacaaaaa actcgatttc 1100  
gaaaaacttc agtcctatga agtcaatatt gaggcaagag atgctggaac 1150



cttttctgga aaatgcaccg ttctgattca agtgatagat gtgaacgacc 1200  
atgccccaga agttaccatg tctgcattta ccagcccaat acctgagaac 1250  
gcgctgaaa ctgtggttgc acttttcagt gtttcagatc ttgattcagg 1300  
agaaaatggg aaaattagtt gctccattca ggaggatcta cccttcctcc 1350  
tgaaatccgc ggaaaaacttt tacaccctac taacggagag accactagac 1400  
agagaaagca gagcggaata caacatcaact atcactgtca ctgacttggg 1450  
gaccctatg ctgataacac agctcaatat gaccgtgctg atcgccgatg 1500  
tcaatgacaa cgctcccgcc ttacccaaa cctcctacac cctgttcgtc 1550  
cgcgagaaca acagccccgc cctgcacatc cgcagcgtca gcgctacaga 1600  
cagagactca ggcaccaacg cccaggtcac ctactcgctg ctgccgcccc 1650  
aggaccgca cctgcccctc acatccctgg tctccatcaa cgcggacaac 1700  
ggccacctgt tcgccctcag gtctctggac tacgaggccc tgcagggggtt 1750  
ccagttccgc gtgggcgctt cagaccacgg ctccccggcg ctgagcagcg 1800  
aggcgctggt gcgcgtggtg gtgctggacg ccaacgacaa ctcgcccttc 1850  
gtgctgtacc cgctgcagaa cggtccgcg ccctgcaccg agctggtgcc 1900  
ccgggcggcc gagccgggct acctggtgac caagggtggtg gcggtggacg 1950  
gcgactcggg ccagaacgcc tggctgtcgt accagctgct caaggccacg 2000  
gagctcggtc tgttcggcgt gtgggcgcac aatggcgagg tgcgcaccgc 2050  
caggctgctg agcgagcgcg acgcgcccaa gcacaggctg gtggtgctgg 2100  
tcaaggacaa tggcgagcct ccgcgctcgg ccaccgccac gctgcacgtg 2150  
ctcctggtgg acggtttctc ccagccctac ctgcctctcc cggaggcggc 2200  
cccgaccag gcccaggccg acttgetcac cgtctacctg gtggtggcgt 2250  
tggcctcggg gtcttcgctc ttctctttt cgggtgctcct gttcgtggcg 2300  
gtgcggctgt gtaggaggag cagggcggcc tcggtgggtc gctgcttggg 2350  
gcccgagggc ccccttcag ggcattctgt ggacatgagc ggcaccagga 2400  
ccctatccca gagctaccag tatgaggtgt gtctggcagg aggctcaggg 2450  
accaatgagt tcaagttcct gaagccgatt atccccaact tccctcccca 2500  
gtgccctggg aaagaaatac aaggaaattc taccttcccc aataactttg 2550  
ggttcaatat tcagtgacca tagttgactt ttacattcca taggtatttt 2600



attttgtggc atttccatgc caatgtttat ttcccccaat ttgtgtgtat 2650  
gtaatatgtg acggattttac tcttgatttt tctcatgttc tttctccctt 2700  
tgtttttaaag tgaacattta cctttattcc tggttcctt 2738

<210> 405  
<211> 798  
<212> PRT  
<213> Homo sapiens

<400> 405  
Met Glu Ala Ser Gly Lys Leu Ile Cys Arg Gln Arg Gln Val Leu  
1 5 10 15  
Phe Ser Phe Leu Leu Leu Gly Leu Ser Leu Ala Gly Ala Ala Glu  
20 25 30  
Pro Arg Ser Tyr Ser Val Val Glu Glu Thr Glu Gly Ser Ser Phe  
35 40 45  
Val Thr Asn Leu Ala Lys Asp Leu Gly Leu Glu Gln Arg Glu Phe  
50 55 60  
Ser Arg Arg Gly Val Arg Val Val Ser Arg Gly Asn Lys Leu His  
65 70 75  
Leu Gln Leu Asn Gln Glu Thr Ala Asp Leu Leu Leu Asn Glu Lys  
80 85 90  
Leu Asp Arg Glu Asp Leu Cys Gly His Thr Glu Pro Cys Val Leu  
95 100 105  
Arg Phe Gln Val Leu Leu Glu Ser Pro Phe Glu Phe Phe Gln Ala  
110 115 120  
Glu Leu Gln Val Ile Asp Ile Asn Asp His Ser Pro Val Phe Leu  
125 130 135  
Asp Lys Gln Met Leu Val Lys Val Ser Glu Ser Ser Pro Pro Gly  
140 145 150  
Thr Thr Phe Pro Leu Lys Asn Ala Glu Asp Leu Asp Val Gly Gln  
155 160 165  
Asn Asn Ile Glu Asn Tyr Ile Ile Ser Pro Asn Ser Tyr Phe Arg  
170 175 180  
Val Leu Thr Arg Lys Arg Ser Asp Gly Arg Lys Tyr Pro Glu Leu  
185 190 195  
Val Leu Asp Lys Ala Leu Asp Arg Glu Glu Glu Ala Glu Leu Arg  
200 205 210  
Leu Thr Leu Thr Ala Leu Asp Gly Gly Ser Pro Pro Arg Ser Gly  
215 220 225  
Thr Ala Gln Val Tyr Ile Glu Val Leu Asp Val Asn Asp Asn Ala











<211> 23  
<212> DNA  
<213> Artificial Sequence  
  
<220>  
<223> Synthetic oligonucleotide probe

<400> 406  
ctgagaacgc gcctgaaact gtg 23

<210> 407  
<211> 22  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 407  
agcgttgtca ttgacatcgg cg 22

<210> 408  
<211> 50  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 408  
ttagttgctc cattcaggag gatctaccot toctcctgaa atccgcggaa 50

<210> 409  
<211> 1379  
<212> DNA  
<213> Homo sapiens

<400> 409  
accacgcgt ccgcccacgc gtcgcgccac gcgtccgccc acgcgtccgc 50  
gcgtagccgt gcgccgattg cctctcggcc tgggcaatgg tcccggctgc 100  
cggtcgacga ccgccccgcg tcatgcggct cctcggctgg tggcaagtat 150  
tgctgtgggt gctgggactt cccgtccgcg gcgtggaggt tgcagaggaa 200  
agtggtcgct tatggtcaga ggagcagcct gctcaccctc tccaggtggg 250  
ggctgtgtac ctgggtgagg aggagctcct gcatgaccgc atgggccagg 300  
acagggcagc agaagaggcc aatgcggtgc tggggctgga cacccaaggc 350  
gatcacatgg tgatgctgtc tgtgattcct ggggaagctg aggacaaagt 400  
gagttcagag cctagcggcg tcacctgtgg tgctggagga gcggaggact 450  
caagggtgcaa cgtccgagag agccttttct ctctggatgg cgctggagca 500







90

Ser Ile Arg Trp Leu Ile Pro Gly Gln Glu Gln Glu His Val Glu  
350 355 360

278



<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 411  
cacagagcca gaagtggcgg aatc 24

<210> 412  
<211> 25  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 412  
ccacatgttc ctgctcttgt cctgg 25

<210> 413  
<211> 45  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 413  
cggtagtgc tgtactctag tcctgtttta caccctgtgg tgccg 45

<210> 414  
<211> 1196  
<212> DNA  
<213> Homo sapiens

<400> 414  
cccggctccg ctccctctgc cccctcgggg tcgcgcgccc acgatgctgc 50  
agggccctgg ctgcgtgctg ctgctcttcc tcgcctcgca ctgctgcctg 100  
ggctcggcgc gcgggctctt cctctttggc cagcccgact tctcctacaa 150  
gcgcagcaat tgcaagccca tcccggtaaa cctgcagctg tgccacggca 200  
tcgaatacca gaacatgcgg ctgcccacc tgctgggcca cgagaccatg 250  
aaggaggtgc tggagcaggc cggcgcttgg atcccgtgg tcatgaagca 300  
gtgccaccgc gacaccaaga agttcctgtg ctgcgtcttc gccccgtct 350  
gcctcgatga cctagacgag accatccagc catgccactc gctctgcgtg 400  
caggtgaagg accgctgcgc cccggctcatg tccgccttcg gcttcccctg 450  
gcccgcacatg cttgagtgcg accgtttccc ccaggacaac gacctttgca 500  
tccccctcgc tagcagcgac cacctcctgc cagccaccga ggaagctcca 550



aaggatatgtg aagcctgcaa aaataaaaaat gatgatgaca acgacataat 600  
ggaaacgctt tgtaaaaatg attttgcact gaaaataaaa gtgaaggaga 650  
taacctacat caaccgagat accaaaaatca tcctggagac caagagcaag 700  
accatttaca agctgaacgg tgtgtccgaa agggacctga agaaatcggg 750  
gctgtgggctc aaagacagct tgcagtgcac ctgtgaggag atgaacgaca 800  
tcaacgcgcc ctatctgggtc atgggacaga aacaggggtgg ggagctgggtg 850  
atcacctcgg tgaagcgggtg gcagaagggg cagagagagt tcaagcgcac 900  
ctcccgagc atccgcaagc tgcagtgcta gtcccgcat cctgatggct 950  
ccgacaggcc tgctccagag cacggctgac catttctgct ccgggatctc 1000  
agctcccgtt cccaagcac actcctagct gctccagtct cagcctgggc 1050  
agcttcccc tgccttttgc acgtttgcat cccagcatt tcctgagtta 1100  
taaggccaca ggagtggata gctgttttca cctaaaggaa aagcccaccc 1150  
gaatcttgta gaaatattca aactaataaa atcatgaata ttttaa 1196

<210> 415

<211> 295

<212> PRT

<213> Homo sapiens

<400> 415

Met Leu Gln Gly Pro Gly Ser Leu Leu Leu Leu Phe Leu Ala Ser  
1 5 10 15

His Cys Cys Leu Gly Ser Ala Arg Gly Leu Phe Leu Phe Gly Gln  
20 25 30

Pro Asp Phe Ser Tyr Lys Arg Ser Asn Cys Lys Pro Ile Pro Val  
35 40 45

Asn Leu Gln Leu Cys His Gly Ile Glu Tyr Gln Asn Met Arg Leu  
50 55 60

Pro Asn Leu Leu Gly His Glu Thr Met Lys Glu Val Leu Glu Gln  
65 70 75

Ala Gly Ala Trp Ile Pro Leu Val Met Lys Gln Cys His Pro Asp  
80 85 90

Thr Lys Lys Phe Leu Cys Ser Leu Phe Ala Pro Val Cys Leu Asp  
95 100 105

Asp Leu Asp Glu Thr Ile Gln Pro Cys His Ser Leu Cys Val Gln  
110 115 120

Val Lys Asp Arg Cys Ala Pro Val Met Ser Ala Phe Gly Phe Pro  
125 130 135



Trp	Pro	Asp	Met	Leu	Glu	Cys	Asp	Arg	Phe	Pro	Gln	Asp	Asn	Asp	
				140					145					150	
Leu	Cys	Ile	Pro	Leu	Ala	Ser	Ser	Asp	His	Leu	Leu	Pro	Ala	Thr	
				155					160					165	
Glu	Glu	Ala	Pro	Lys	Val	Cys	Glu	Ala	Cys	Lys	Asn	Lys	Asn	Asp	
				170					175					180	
Asp	Asp	Asn	Asp	Ile	Met	Glu	Thr	Leu	Cys	Lys	Asn	Asp	Phe	Ala	
				185					190					195	
Leu	Lys	Ile	Lys	Val	Lys	Glu	Ile	Thr	Tyr	Ile	Asn	Arg	Asp	Thr	
				200					205					210	
Lys	Ile	Ile	Leu	Glu	Thr	Lys	Ser	Lys	Thr	Ile	Tyr	Lys	Leu	Asn	
				215					220					225	
Gly	Val	Ser	Glu	Arg	Asp	Leu	Lys	Lys	Ser	Val	Leu	Trp	Leu	Lys	
				230					235					240	
Asp	Ser	Leu	Gln	Cys	Thr	Cys	Glu	Glu	Met	Asn	Asp	Ile	Asn	Ala	
				245					250					255	
Pro	Tyr	Leu	Val	Met	Gly	Gln	Lys	Gln	Gly	Gly	Glu	Leu	Val	Ile	
				260					265					270	
Thr	Ser	Val	Lys	Arg	Trp	Gln	Lys	Gly	Gln	Arg	Glu	Phe	Lys	Arg	
				275					280					285	
Ile	Ser	Arg	Ser	Ile	Arg	Lys	Leu	Gln	Cys						
				290					295						

<210> 416

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 416

cctggctcgc tgctgctgct c 21

<210> 417

<211> 25

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 417

cctcacaggt gcactgcaag ctgtc 25

<210> 418

<211> 47

<212> DNA



<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 418

ctcttcctct ttggccagcc cgacttctcc tacaagcgca gaattgc 47

<210> 419

<211> 1830

<212> DNA

<213> Homo sapiens

<400> 419

gtggaggccg ccgacgatgg cggggccgac ggaggccgag acgggggttg 50  
ccgagccccg ggccctgtgc gcgcagcggg gccaccgcac ctacgcgcgc 100  
cgctgggtgt tcctgctcgc gatcagcctg ctcaactgct ccaacgccac 150  
gctgtggctc agctttgcac ctgtggctga cgtcattgct gaggacttgg 200  
tcctgtccat ggagcagatc aactggctgt cactgggtcta cctcgtggta 250  
tccaccccat ttggcgtggc ggccatctgg atcctggact ccgtcgggct 300  
ccgtgcggcg accatcctgg gtgcgtggct gaactttgcc gggagtgtgc 350  
tacgcatggt gccctgcatg gttgttggga cccaaaaccc atttgccttc 400  
ctcatgggtg gccagagcct ctgtgccott gccagagcc tggatcatctt 450  
ctctccagcc aagctggctg ccttgtggtt cccagagcac cagcgagcca 500  
cggccaacat gctcgccacc atgtcgaacc ctctgggcgt ccttgtggcc 550  
aatgtgctgt cccctgtgct ggtcaagaag ggtgaggaca ttccgttaat 600  
gctcgggtgc tataccatcc ctgctggcgt cgtctgcctg ctgtccacca 650  
tgtgcctgtg ggagagtgtg cccccaccc cgccctctgc cggggctgcc 700  
agctccacct cagagaagtt cctggatggg ctcaagctgc agctcatgtg 750  
gaacaaggcc tatgtcatcc tggctgtgtg cttgggggga atgatcggga 800  
tgtctgccag cttctcagcc ctctggagc agatcctctg tgcaagcggc 850  
cactccagtg ggttttcggg cctctgtggc gctctcttca tcacgttttg 900  
gatcctgggg gcactggctc tcggccccta tgtggaccgg accaagcact 950  
tcactgaggc caccaagatt ggcctgtgcc tgttctctct ggcctgcgtg 1000  
ccctttgccc tgggtgtcca gctgcaggga cagacccttg ccctggctgc 1050  
cacctgctcg ctgctcgggc tgtttggctt ctcggtgggc cccgtggcca 1100



tggagttggc ggtcgagtgt tccttccccg tgggggaggg ggctgccaca 1150  
 ggcatgatct ttgtgctggg gcaggccgag ggaataactca tcatgctggc 1200  
 aatgacggga ctgactgtgc gacgctcgga gccgtccttg tccacctgcc 1250  
 agcaggggga ggatccactt gactggacag tgtctctgct gctgatggcc 1300  
 ggcctgtgca ccttcttcag ctgcatctg gcggtcttct tccacacccc 1350  
 ataccggcgc ctgcaggccg agtctgggga gccccctcc acccgtaacg 1400  
 ccgtggggcg cgcagactca gggccgggtg tggaccgagg gggagcagga 1450  
 agggctgggg tcctggggcc cagcacggcg actccggagt gcacggcgag 1500  
 gggggcctcg ctagaggacc ccagagggcc cgggagcccc caccagcct 1550  
 gccaccgagc gactccccgt gcgcaaggcc cagcagccac cgacgcgcc 1600  
 tcccgcctcg gcagactcgc aggcagggtc caagcgtcca ggtttattga 1650  
 cccggctggg tctcaactct ccttctctc cccgtgggtg atcacgtagc 1700  
 tgagcgcctt gtagtccagg ttgcccgcca catcgatgga ggcgaactgg 1750  
 aacatctggt ccacctgcgg gcgggggcca aagggtcct tgcgggctcc 1800  
 gggagcgaat tacaagcgcg cacctgaaaa 1830

<210> 420

<211> 560

<212> PRT

<213> Homo sapiens

<400> 420

Met	Ala	Gly	Pro	Thr	Glu	Ala	Glu	Thr	Gly	Leu	Ala	Glu	Pro	Arg
1				5					10					15

Ala	Leu	Cys	Ala	Gln	Arg	Gly	His	Arg	Thr	Tyr	Ala	Arg	Arg	Trp
				20					25					30

Val	Phe	Leu	Leu	Ala	Ile	Ser	Leu	Leu	Asn	Cys	Ser	Asn	Ala	Thr
				35					40					45

Leu	Trp	Leu	Ser	Phe	Ala	Pro	Val	Ala	Asp	Val	Ile	Ala	Glu	Asp
				50					55					60

Leu	Val	Leu	Ser	Met	Glu	Gln	Ile	Asn	Trp	Leu	Ser	Leu	Val	Tyr
				65					70					75

Leu	Val	Val	Ser	Thr	Pro	Phe	Gly	Val	Ala	Ala	Ile	Trp	Ile	Leu
				80					85					90

Asp	Ser	Val	Gly	Leu	Arg	Ala	Ala	Thr	Ile	Leu	Gly	Ala	Trp	Leu
				95					100					105

Asn	Phe	Ala	Gly	Ser	Val	Leu	Arg	Met	Val	Pro	Cys	Met	Val	Val
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----







Pro	Ser	Leu	Ser	Thr	Cys	Gln	Gln	Gly	Glu	Asp	Pro	Leu	Asp	Trp
				410					415					420
Thr	Val	Ser	Leu	Leu	Leu	Met	Ala	Gly	Leu	Cys	Thr	Phe	Phe	Ser
				425					430					435
Cys	Ile	Leu	Ala	Val	Phe	Phe	His	Thr	Pro	Tyr	Arg	Arg	Leu	Gln
				440					445					450
Ala	Glu	Ser	Gly	Glu	Pro	Pro	Ser	Thr	Arg	Asn	Ala	Val	Gly	Gly
				455					460					465
Ala	Asp	Ser	Gly	Pro	Gly	Val	Asp	Arg	Gly	Gly	Ala	Gly	Arg	Ala
				470					475					480
Gly	Val	Leu	Gly	Pro	Ser	Thr	Ala	Thr	Pro	Glu	Cys	Thr	Ala	Arg
				485					490					495
Gly	Ala	Ser	Leu	Glu	Asp	Pro	Arg	Gly	Pro	Gly	Ser	Pro	His	Pro
				500					505					510
Ala	Cys	His	Arg	Ala	Thr	Pro	Arg	Ala	Gln	Gly	Pro	Ala	Ala	Thr
				515					520					525
Asp	Ala	Pro	Ser	Arg	Pro	Gly	Arg	Leu	Ala	Gly	Arg	Val	Gln	Ala
				530					535					540
Ser	Arg	Phe	Ile	Asp	Pro	Ala	Gly	Ser	His	Ser	Ser	Phe	Ser	Ser
				545					550					555
Pro	Trp	Val	Ile	Thr										
				560										

<210> 421

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 421

agcttctcag ccctcctgga gcag 24

<210> 422

<211> 25

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 422

cgggtcaata aacctggacg cttgg 25

<210> 423

<211> 43

<212> DNA



<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 423

tatgtggacc ggaccaagca cttcactgag gccaccaaga ttg 43

<210> 424

<211> 4313

<212> DNA

<213> Homo sapiens

<400> 424

gtcccatc ctgctcaact gggtcaggtc cctcttagac cagctcttgt 50  
ccatcatttg ctgaagtgga ccaactagtt cccagtagg gggctctccc 100  
tggcaattct tgatcggcgt ttggacatct cagatcgctt ccaatgaaga 150  
tggccttgcc ttggggctct gcttgtttca taatcatcta actatgggac 200  
aaggttgtgc cggcagctct gggggaagga gcacggggct gatcaagcca 250  
tccaggaaac actggaggac ttgtccagcc ttgaaagaac tctagtgggt 300  
tctgaatcta gccacttg cggtaaagcat gatgcaactt ctgcaacttc 350  
tgctggggct tttggggcca ggtggctact tatttctttt aggggattgt 400  
caggaggtga ccactctcac ggtgaaatac caagtgtcag aggaagtgcc 450  
atctggtaca gtgatcggga agctgtccca ggaactgggc cgggaggaga 500  
ggcggaggca agctggggcc gccttccagg tgttgacgt gcctcaggcg 550  
ctccccattc aggtggactc tgaggaaggc ttgctcagca caggcaggcg 600  
gctggatcga gagcagctgt gccgacagt ggatccctgc ctggtttcct 650  
ttgatgtgct tgccacagg gatttggctc tgatccatgt ggagatccaa 700  
gtgctggaca tcaatgacca ccagccacgg tttcccaaag gcgagcagga 750  
gctggaaatc tctgagagcg cctctctgag aaccgggac ccctggaca 800  
gagctcttga cccagacaca ggccctaaca cctgcacac ctacactctg 850  
tctcccagt agcactttgc cttggatgtc attgtgggac ctgatgagac 900  
caaacatgca gaactcatag tggatgaagga gctggacagg gaaatccatt 950  
cattttttga tctggtgtta actgcctatg acaatgggaa ccccccaag 1000  
tcaggtagca gcttgggtcaa ggtcaacgtc ttggactcca atgacaatag 1050  
ccctgcgttt gctgagagtt cactggcact ggaaatccaa gaagatgctg 1100



cacctgggtac	gcttctcata	aaactgaccg	ccacagaccc	tgaccaaggc	1150
cccaatgggg	aggtggagtt	cttctcagt	aagcacatgc	ctccagaggt	1200
gctggacacc	ttcagtattg	atgccaaag	aggccaggtc	attctgcgtc	1250
gacctotaga	ctatgaaaag	aaccctgcct	acgaggtgga	tgttcaggca	1300
agggacctgg	gtcccaatcc	tatcccagcc	cattgcaaag	ttctcatcaa	1350
ggttctggat	gtcaatgaca	acatcccaag	catccacgtc	acatgggcct	1400
cccagccatc	actgggtgtc	gaagctcttc	ccaaggacag	ttttattgct	1450
cttgtcatgg	cagatgactt	ggattcagga	cacaatgggt	tgggtccactg	1500
ctggctgagc	caagagctgg	gccacttcag	gctgaaaaga	actaatggca	1550
acacatacat	gttgctaacc	aatgccacac	tggacagaga	gcagtggccc	1600
aaatataccc	tcactctgtt	agcccaagac	caaggactcc	agcccttatc	1650
agccaagaaa	cagctcagca	ttcagatcag	tgacatcaac	gacaatgcac	1700
ctgtgtttga	gaaaagcagg	tatgaagtct	ccacgcggga	aaacaactta	1750
ccctctcttc	acctcattac	catcaaggct	catgatgcag	acttgggcat	1800
taatggaaaa	gtctcatacc	gcattccagga	ctcccagtt	gtcacttag	1850
tagctattga	ctccaacaca	ggagaggtca	ctgctcagag	gtcactgaac	1900
tatgaagaga	tggccggctt	tgagttccag	gtgatcgag	aggacagcgg	1950
gcaacccatg	cttgcatcca	gtgtctctgt	gtgggtcagc	ctcttggtg	2000
ccaatgataa	tgcccagag	gtgggtccagc	ctgtgctcag	cgatggaaaa	2050
gccagcctct	ccgtgcttgt	gaatgcctcc	acaggccacc	tgctggtgcc	2100
catcgagact	cccaatggct	tggtcccagc	gggactgac	acacctccac	2150
tggccactca	cagctcccgg	ccattccttt	tgacaaccat	tgtggcaaga	2200
gatgcagact	cgggggcaaa	tggagagccc	ctctacagca	tccgcaatgg	2250
aatgaagcc	cacctcttca	tcctcaaccc	tcatacgggg	cagctgttcg	2300
tcaatgtcac	caatgccagc	agcctcattg	ggagtgagtg	ggagctggag	2350
atagtagtag	aggaccaggg	aagccccccc	ttacagaccc	gagccctgtt	2400
gaggtcatg	tttgtcacca	gtgtggacca	cctgagggac	tcagcccgc	2450
agcctggggc	cttgagcatg	tcgatgctga	cggtgatctg	cctggctgta	2500
ctgttgggca	tcttcgggtt	gatcctggct	ttgttcatgt	ccatctgccg	2550



gacagaaaaag	aaggacaaca	gggcctacaa	ctgtcgggag	gccgagtcca	2600
cctaccgcca	gcagcccaag	aggccccaga	aacacattca	gaaggcagac	2650
atccacctcg	tgctgtgtct	caggggtcag	gcaggtgagc	cttgtgaagt	2700
cgggcagtcc	cacaaagatg	tggacaagga	ggcgatgatg	gaagcaggct	2750
gggacccttg	cctgcaggcc	cccttcacac	tcaccccgac	cctgtacagg	2800
acgctgcgta	atcaaggcaa	ccagggagca	ccggcggaga	gccgagaggt	2850
gctgcaagac	acggtcaacc	tccttttcaa	ccatcccagg	cagaggaatg	2900
cctcccggga	gaacctgaac	cttcccgagc	cccagcctgc	cacaggccag	2950
ccacgttcca	ggcctctgaa	ggttgcaggc	agccccacag	ggaggctggc	3000
tggagaccag	ggcagtgagg	aagccccaca	gaggccacca	gcctcctctg	3050
caaccctgag	acggcagcga	catctcaatg	gcaaagtgtc	ccctgagaaa	3100
gaatcagggc	cccgtcagat	cctgcgggagc	ctgggtccggc	tgtctgtggc	3150
tgcttctgcc	gagcggaacc	ccgtggagga	gctcactgtg	gattctcctc	3200
ctgttcagca	aatctcccag	ctgctgtcct	tgctgcatca	gggccaattc	3250
cagcccaaac	caaaccaccg	aggaaataag	tacttggcca	agccaggagg	3300
cagcaggagt	gcaatcccag	acacagatgg	cccaagtgca	agggctggag	3350
gccagacaga	cccagaacag	gaggaagggc	ctttggatcc	tgaagaggac	3400
ctctctgtga	agcaactgct	agaagaagag	ctgtcaagtc	tgctggaccc	3450
cagcacaggt	ctggccctgg	accggctgag	cgcccctgac	ccggcctgga	3500
tggcgagact	ctctttgccc	ctcaccacca	actaccgtga	caatgtgatc	3550
tccccggatg	ctgcagccac	ggaggagccg	aggaccttcc	agacgttcgg	3600
caaggcagag	gcaccagagc	tgagcccaac	aggcacgagg	ctggccagca	3650
cctttgtctc	ggagatgagc	tactgctgg	agatgctgct	ggaacagcgc	3700
tccagcatgc	ccgtggaggc	cgcctccgag	gcgctgcggc	ggctctcggt	3750
ctgcgggagg	accctcagtt	tagacttggc	caccagtgca	gcctcaggca	3800
tgaaagtgca	aggggaccca	ggtggaaaga	cggggactga	gggcaagagc	3850
agaggcagca	gcagcagcag	caggtgcctg	tgaacatacc	tcagacgcct	3900
ctggatccaa	gaaccagggg	cctgaggatc	tgtggacaag	agctggtttc	3950
taaaatcttg	taactcacta	gctagcggcg	gcctgagaac	tttaggggtga	4000



ctgatgctac cccacagag gaggcaagag cccaggact aacagctgac 4050  
 tgaccaaagc agccccttgt aagcagctct gagtcttttg gaggacaggg 4100  
 acggtttgtg gctgagataa gtgtttcctg gcaaacata tgtggagcac 4150  
 aaagggtcag tcctctggca gaacagatgc cacggagtat cacaggcagg 4200  
 aaagggtggc cttcttgggt agcaggagtc agggggctgt accctggggg 4250  
 tgccaggaaa tgctctctga cctatcaata aaggaaaagc agtaaaaaaa 4300  
 aaaaaaaaaa aaa 4313

<210> 425

<211> 1184

<212> PRT

<213> Homo sapiens

<400> 425

Met	Met	Gln	Leu	Leu	Gln	Leu	Leu	Leu	Gly	Leu	Leu	Gly	Pro	Gly	
1				5					10					15	
Gly	Tyr	Leu	Phe	Leu	Leu	Gly	Asp	Cys	Gln	Glu	Val	Thr	Thr	Leu	
				20					25					30	
Thr	Val	Lys	Tyr	Gln	Val	Ser	Glu	Glu	Val	Pro	Ser	Gly	Thr	Val	
				35					40					45	
Ile	Gly	Lys	Leu	Ser	Gln	Glu	Leu	Gly	Arg	Glu	Glu	Arg	Arg	Arg	
				50					55					60	
Gln	Ala	Gly	Ala	Ala	Phe	Gln	Val	Leu	Gln	Leu	Pro	Gln	Ala	Leu	
				65					70					75	
Pro	Ile	Gln	Val	Asp	Ser	Glu	Glu	Gly	Leu	Leu	Ser	Thr	Gly	Arg	
				80					85					90	
Arg	Leu	Asp	Arg	Glu	Gln	Leu	Cys	Arg	Gln	Trp	Asp	Pro	Cys	Leu	
				95					100					105	
Val	Ser	Phe	Asp	Val	Leu	Ala	Thr	Gly	Asp	Leu	Ala	Leu	Ile	His	
				110					115					120	
Val	Glu	Ile	Gln	Val	Leu	Asp	Ile	Asn	Asp	His	Gln	Pro	Arg	Phe	
				125					130					135	
Pro	Lys	Gly	Glu	Gln	Glu	Leu	Glu	Ile	Ser	Glu	Ser	Ala	Ser	Leu	
				140					145					150	
Arg	Thr	Arg	Ile	Pro	Leu	Asp	Arg	Ala	Leu	Asp	Pro	Asp	Thr	Gly	
				155					160					165	
Pro	Asn	Thr	Leu	His	Thr	Tyr	Thr	Leu	Ser	Pro	Ser	Glu	His	Phe	
				170					175					180	
Ala	Leu	Asp	Val	Ile	Val	Gly	Pro	Asp	Glu	Thr	Lys	His	Ala	Glu	
				185					190					195	



Leu	Ile	Val	Val	Lys 200	Glu	Leu	Asp	Arg	Glu 205	Ile	His	Ser	Phe	Phe 210
Asp	Leu	Val	Leu	Thr 215	Ala	Tyr	Asp	Asn	Gly 220	Asn	Pro	Pro	Lys	Ser 225
Gly	Thr	Ser	Leu	Val 230	Lys	Val	Asn	Val	Leu 235	Asp	Ser	Asn	Asp	Asn 240
Ser	Pro	Ala	Phe	Ala 245	Glu	Ser	Ser	Leu	Ala 250	Leu	Glu	Ile	Gln	Glu 255
Asp	Ala	Ala	Pro	Gly 260	Thr	Leu	Leu	Ile	Lys 265	Leu	Thr	Ala	Thr	Asp 270
Pro	Asp	Gln	Gly	Pro 275	Asn	Gly	Glu	Val	Glu 280	Phe	Phe	Leu	Ser	Lys 285
His	Met	Pro	Pro	Glu 290	Val	Leu	Asp	Thr	Phe 295	Ser	Ile	Asp	Ala	Lys 300
Thr	Gly	Gln	Val	Ile 305	Leu	Arg	Arg	Pro	Leu 310	Asp	Tyr	Glu	Lys	Asn 315
Pro	Ala	Tyr	Glu	Val 320	Asp	Val	Gln	Ala	Arg 325	Asp	Leu	Gly	Pro	Asn 330
Pro	Ile	Pro	Ala	His 335	Cys	Lys	Val	Leu	Ile 340	Lys	Val	Leu	Asp	Val 345
Asn	Asp	Asn	Ile	Pro 350	Ser	Ile	His	Val	Thr 355	Trp	Ala	Ser	Gln	Pro 360
Ser	Leu	Val	Ser	Glu 365	Ala	Leu	Pro	Lys	Asp 370	Ser	Phe	Ile	Ala	Leu 375
Val	Met	Ala	Asp	Asp 380	Leu	Asp	Ser	Gly	His 385	Asn	Gly	Leu	Val	His 390
Cys	Trp	Leu	Ser	Gln 395	Glu	Leu	Gly	His	Phe 400	Arg	Leu	Lys	Arg	Thr 405
Asn	Gly	Asn	Thr	Tyr 410	Met	Leu	Leu	Thr	Asn 415	Ala	Thr	Leu	Asp	Arg 420
Glu	Gln	Trp	Pro	Lys 425	Tyr	Thr	Leu	Thr	Leu 430	Leu	Ala	Gln	Asp	Gln 435
Gly	Leu	Gln	Pro	Leu 440	Ser	Ala	Lys	Lys	Gln 445	Leu	Ser	Ile	Gln	Ile 450
Ser	Asp	Ile	Asn	Asp 455	Asn	Ala	Pro	Val	Phe 460	Glu	Lys	Ser	Arg	Tyr 465
Glu	Val	Ser	Thr	Arg 470	Glu	Asn	Asn	Leu	Pro 475	Ser	Leu	His	Leu	Ile 480
Thr	Ile	Lys	Ala	His	Asp	Ala	Asp	Leu	Gly	Ile	Asn	Gly	Lys	Val



	485		490		495
Ser Tyr Arg Ile	Gln Asp Ser Pro Val	Ala His Leu Val Ala	Ile		
	500		505		510
Asp Ser Asn Thr	Gly Glu Val Thr Ala	Gln Arg Ser Leu Asn	Tyr		
	515		520		525
Glu Glu Met Ala	Gly Phe Glu Phe Gln	Val Ile Ala Glu Asp	Ser		
	530		535		540
Gly Gln Pro Met	Leu Ala Ser Ser Val	Ser Val Trp Val Ser	Leu		
	545		550		555
Leu Asp Ala Asn	Asp Asn Ala Pro Glu	Val Val Gln Pro Val	Leu		
	560		565		570
Ser Asp Gly Lys	Ala Ser Leu Ser Val	Leu Val Asn Ala Ser	Thr		
	575		580		585
Gly His Leu Leu	Val Pro Ile Glu Thr	Pro Asn Gly Leu Gly	Pro		
	590		595		600
Ala Gly Thr Asp	Thr Pro Pro Leu Ala	Thr His Ser Ser Arg	Pro		
	605		610		615
Phe Leu Leu Thr	Thr Ile Val Ala Arg	Asp Ala Asp Ser Gly	Ala		
	620		625		630
Asn Gly Glu Pro	Leu Tyr Ser Ile Arg	Asn Gly Asn Glu Ala	His		
	635		640		645
Leu Phe Ile Leu	Asn Pro His Thr Gly	Gln Leu Phe Val Asn	Val		
	650		655		660
Thr Asn Ala Ser	Ser Leu Ile Gly Ser	Glu Trp Glu Leu Glu	Ile		
	665		670		675
Val Val Glu Asp	Gln Gly Ser Pro Pro	Leu Gln Thr Arg Ala	Leu		
	680		685		690
Leu Arg Val Met	Phe Val Thr Ser Val	Asp His Leu Arg Asp	Ser		
	695		700		705
Ala Arg Lys Pro	Gly Ala Leu Ser Met	Ser Met Leu Thr Val	Ile		
	710		715		720
Cys Leu Ala Val	Leu Leu Gly Ile Phe	Gly Leu Ile Leu Ala	Leu		
	725		730		735
Phe Met Ser Ile	Cys Arg Thr Glu Lys	Lys Asp Asn Arg Ala	Tyr		
	740		745		750
Asn Cys Arg Glu	Ala Glu Ser Thr Tyr	Arg Gln Gln Pro Lys	Arg		
	755		760		765
Pro Gln Lys His	Ile Gln Lys Ala Asp	Ile His Leu Val Pro	Val		
	770		775		780



Leu	Arg	Gly	Gln	Ala 785	Gly	Glu	Pro	Cys	Glu 790	Val	Gly	Gln	Ser	His 795
Lys	Asp	Val	Asp	Lys 800	Glu	Ala	Met	Met	Glu 805	Ala	Gly	Trp	Asp	Pro 810
Cys	Leu	Gln	Ala	Pro 815	Phe	His	Leu	Thr	Pro 820	Thr	Leu	Tyr	Arg	Thr 825
Leu	Arg	Asn	Gln	Gly 830	Asn	Gln	Gly	Ala	Pro 835	Ala	Glu	Ser	Arg	Glu 840
Val	Leu	Gln	Asp	Thr 845	Val	Asn	Leu	Leu	Phe 850	Asn	His	Pro	Arg	Gln 855
Arg	Asn	Ala	Ser	Arg 860	Glu	Asn	Leu	Asn	Leu 865	Pro	Glu	Pro	Gln	Pro 870
Ala	Thr	Gly	Gln	Pro 875	Arg	Ser	Arg	Pro	Leu 880	Lys	Val	Ala	Gly	Ser 885
Pro	Thr	Gly	Arg	Leu 890	Ala	Gly	Asp	Gln	Gly 895	Ser	Glu	Glu	Ala	Pro 900
Gln	Arg	Pro	Pro	Ala 905	Ser	Ser	Ala	Thr	Leu 910	Arg	Arg	Gln	Arg	His 915
Leu	Asn	Gly	Lys	Val 920	Ser	Pro	Glu	Lys	Glu 925	Ser	Gly	Pro	Arg	Gln 930
Ile	Leu	Arg	Ser	Leu 935	Val	Arg	Leu	Ser	Val 940	Ala	Ala	Phe	Ala	Glu 945
Arg	Asn	Pro	Val	Glu 950	Glu	Leu	Thr	Val	Asp 955	Ser	Pro	Pro	Val	Gln 960
Gln	Ile	Ser	Gln	Leu 965	Leu	Ser	Leu	Leu	His 970	Gln	Gly	Gln	Phe	Gln 975
Pro	Lys	Pro	Asn	His 980	Arg	Gly	Asn	Lys	Tyr 985	Leu	Ala	Lys	Pro	Gly 990
Gly	Ser	Arg	Ser	Ala 995	Ile	Pro	Asp	Thr	Asp 1000	Gly	Pro	Ser	Ala	Arg 1005
Ala	Gly	Gly	Gln	Thr 1010	Asp	Pro	Glu	Gln	Glu 1015	Glu	Gly	Pro	Leu	Asp 1020
Pro	Glu	Glu	Asp	Leu 1025	Ser	Val	Lys	Gln	Leu 1030	Leu	Glu	Glu	Glu	Leu 1035
Ser	Ser	Leu	Leu	Asp 1040	Pro	Ser	Thr	Gly	Leu 1045	Ala	Leu	Asp	Arg	Leu 1050
Ser	Ala	Pro	Asp	Pro 1055	Ala	Trp	Met	Ala	Arg 1060	Leu	Ser	Leu	Pro	Leu 1065
Thr	Thr	Asn	Tyr	Arg	Asp	Asn	Val	Ile	Ser	Pro	Asp	Ala	Ala	Ala



1070	1075	1080
Thr Glu Glu Pro Arg Thr Phe Gln Thr Phe Gly Lys Ala Glu Ala		
1085	1090	1095
Pro Glu Leu Ser Pro Thr Gly Thr Arg Leu Ala Ser Thr Phe Val		
1100	1105	1110
Ser Glu Met Ser Ser Leu Leu Glu Met Leu Leu Glu Gln Arg Ser		
1115	1120	1125
Ser Met Pro Val Glu Ala Ala Ser Glu Ala Leu Arg Arg Leu Ser		
1130	1135	1140
Val Cys Gly Arg Thr Leu Ser Leu Asp Leu Ala Thr Ser Ala Ala		
1145	1150	1155
Ser Gly Met Lys Val Gln Gly Asp Pro Gly Gly Lys Thr Gly Thr		
1160	1165	1170
Glu Gly Lys Ser Arg Gly Ser Ser Ser Ser Ser Arg Cys Leu		
1175	1180	

<210> 426

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 426

gtaagcacat gcctccagag gtgc 24

<210> 427

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 427

gtgacgtgga tgcttgggat gttg 24

<210> 428

<211> 50

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 428

tggacacctt cagtattgat gccaaagacag gccagggtcat tctgcgtcga 50

<210> 429

<211> 2037



<212> DNA  
<213> Homo sapiens

<400> 429

cggaacgcgtg ggcggacgcg tgggggagag ccgcagtccc ggctgcagca 50  
cctggggagaa ggcagaccgt gtgagggggc ctgtggcccc agcgtgctgt 100  
ggcctcgggg agtgggaagt ggaggcagga gccttcctta cacttcgcca 150  
tgagtttcct catcgactcc agcatcatga ttacctcca gatactattt 200  
tttggaattg ggtggctttt cttcatgcgc caattgttta aagactatga 250  
gatacgtcag tatgttgtac aggtgatctt ctccgtgacg tttgcatttt 300  
cttgaccat gtttgagctc atcatctttg aaatcttagg agtattgaat 350  
agcagctccc gttattttca ctggaaaatg aacctgtgtg taattctgct 400  
gatcctgggt ttcatgggtg ctttttacat tggctatttt attgtgagca 450  
atatccgact actgcataaa caacgactgc ttttttcctg tctcttatgg 500  
ctgaccttta tgtatttctt ctggaaacta ggagatccct ttcccattct 550  
cagcccaaaa catgggatct tatccataga acagctcatc agccgggttg 600  
gtgtgattgg agtgactctc atggctcttc tttctggatt tggtgctgtc 650  
aactgcccac acacttacat gtcttacttc ctcaggaatg tgactgacac 700  
ggatattcta gccctggaac ggcgactgct gcaaaccatg gatatgatca 750  
taagcaaaaa gaaaaggatg gcaatggcac ggagaacaat gttccagaag 800  
ggggaagtgc ataacaaacc atcaggtttc tggggaatga taaaaagtgt 850  
taccacttca gcatcaggaa gtgaaaatct tactcttatt caacaggaag 900  
tggatgcttt ggaagaatta agcaggcagc tttttctgga aacagctgat 950  
ctatatgcta ccaaggagag aatagaatac tccaaaacct tcaaggggaa 1000  
atattttaat tttottggtt actttttctc tattttactgt gtttgaaaa 1050  
ttttcatggc taccatcaat attgtttttg atcgagttgg gaaaacggat 1100  
cctgtcacia gaggcattga gatcactgtg aattatctgg gaatccaatt 1150  
tgatgtgaag ttttgggtccc aacacatttc cttcattctt gttggaataa 1200  
tcacgtcac atccatcaga ggattgctga tcactcttac caagttcttt 1250  
tatgccatct ctagcagtaa gtcctccaat gtcattgtcc tgctattagc 1300  
acagataatg ggcatgtact ttgtctctc tgtgctgctg atccgaatga 1350







Met	Tyr	Phe	Phe	Trp 125	Lys	Leu	Gly	Asp	Pro 130	Phe	Pro	Ile	Leu	Ser 135
Pro	Lys	His	Gly	Ile 140	Leu	Ser	Ile	Glu	Gln 145	Leu	Ile	Ser	Arg	Val 150
Gly	Val	Ile	Gly	Val 155	Thr	Leu	Met	Ala	Leu 160	Leu	Ser	Gly	Phe	Gly 165
Ala	Val	Asn	Cys	Pro 170	Tyr	Thr	Tyr	Met	Ser 175	Tyr	Phe	Leu	Arg	Asn 180
Val	Thr	Asp	Thr	Asp 185	Ile	Leu	Ala	Leu	Glu 190	Arg	Arg	Leu	Leu	Gln 195
Thr	Met	Asp	Met	Ile 200	Ile	Ser	Lys	Lys	Lys 205	Arg	Met	Ala	Met	Ala 210
Arg	Arg	Thr	Met	Phe 215	Gln	Lys	Gly	Glu	Val 220	His	Asn	Lys	Pro	Ser 225
Gly	Phe	Trp	Gly	Met 230	Ile	Lys	Ser	Val	Thr 235	Thr	Ser	Ala	Ser	Gly 240
Ser	Glu	Asn	Leu	Thr 245	Leu	Ile	Gln	Gln	Glu 250	Val	Asp	Ala	Leu	Glu 255
Glu	Leu	Ser	Arg	Gln 260	Leu	Phe	Leu	Glu	Thr 265	Ala	Asp	Leu	Tyr	Ala 270
Thr	Lys	Glu	Arg	Ile 275	Glu	Tyr	Ser	Lys	Thr 280	Phe	Lys	Gly	Lys	Tyr 285
Phe	Asn	Phe	Leu	Gly 290	Tyr	Phe	Phe	Ser	Ile 295	Tyr	Cys	Val	Trp	Lys 300
Ile	Phe	Met	Ala	Thr 305	Ile	Asn	Ile	Val	Phe 310	Asp	Arg	Val	Gly	Lys 315
Thr	Asp	Pro	Val	Thr 320	Arg	Gly	Ile	Glu	Ile 325	Thr	Val	Asn	Tyr	Leu 330
Gly	Ile	Gln	Phe	Asp 335	Val	Lys	Phe	Trp	Ser 340	Gln	His	Ile	Ser	Phe 345
Ile	Leu	Val	Gly	Ile 350	Ile	Ile	Val	Thr	Ser 355	Ile	Arg	Gly	Leu	Leu 360
Ile	Thr	Leu	Thr	Lys 365	Phe	Phe	Tyr	Ala	Ile 370	Ser	Ser	Ser	Lys	Ser 375
Ser	Asn	Val	Ile	Val 380	Leu	Leu	Leu	Ala	Gln 385	Ile	Met	Gly	Met	Tyr 390
Phe	Val	Ser	Ser	Val 395	Leu	Leu	Ile	Arg	Met 400	Ser	Met	Pro	Leu	Glu 405
Tyr	Arg	Thr	Ile	Ile	Thr	Glu	Val	Leu	Gly	Glu	Leu	Gln	Phe	Asn



410	415	420
Phe Tyr His Arg Trp Phe Asp Val Ile	Phe Leu Val Ser Ala Leu	
425	430	435
Ser Ser Ile Leu Phe Leu Tyr Leu Ala	His Lys Gln Ala Pro Glu	
440	445	450
Lys Gln Met Ala Pro		
455		

<210> 431  
 <211> 407  
 <212> DNA  
 <213> Homo sapiens  
  
 <220>  
 <221> unsure  
 <222> 78, 81, 113, 157, 224, 297  
 <223> unknown base

<400> 431  
 catgggaagt ggagccggag ccttccttac actcgccatg agtttcctca 50  
 tcgaactocag catcatgatt acctcccnga nactatTTTT tggatttggg 100  
 tggcttttct tcngcgccaa tgtttaaaga ctatgagata cgtcagtatg 150  
 ttgtacnggt gatcttctcc gtgacgtttg ccatttcttg caccatgttt 200  
 gagctcatca tctttgaaat cttnggagta ttgaatagca gctcccgtta 250  
 ttttcaactgg aaaatgaacc tgtgtgtaat tctgctgac ctggttntca 300  
 tgggtgccttt ttacattggc tattttattg tgagcaatat ccgactactg 350  
 cataaacaac gactgctttt ttctgtctc ttatggctga cctttatgta 400  
 tttocag 407

<210> 432  
 <211> 457  
 <212> DNA  
 <213> Homo sapiens  
  
 <220>  
 <221> unsure  
 <222> 31, 66, 81-82, 84, 122, 184, 187, 232, 241, 400, 424, 427, 434  
 <223> unknown base

<400> 432  
 gtgttgccct tggggagggg aaggggagcc nggccctttc ctaaaatttg 50  
 gccaaagggtt tctttnttga attccgggtt nngnatacct tcccagaaaa 100  
 tatttttttg atttggggta gntttttttc atgcgccaat tgtttaaaga 150  
 ctatgagata cgtcagtatg ttgtacaggt gatnttntcc gtgacgtttg 200



cattttcttg caccatgttt gagtcacatca tntttgaaat nttaggagta 250  
 ttgaatagca gctcccggtta ttttacttg aaaatgaacc tgtgtgtaat 300  
 totgtgatc ctggttttca tgggtgccttt ttacattggc tattttattg 350  
 tgagcaatat ccgactactg cataaacaac gactgctttt ttcctgtctn 400  
 ttatggctga cctttatgta tttnttntgg aaantaggag atccctttcc 450  
 cattctc 457

<210> 433  
 <211> 20  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 433  
 aagtggagcc ggagccttcc 20

<210> 434  
 <211> 22  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 434  
 tcgttggtta tgcagtagtc gg 22

<210> 435  
 <211> 41  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 435  
 attgtttaaa gactatgaga tacgtcagta tgttgtagag g 41

<210> 436  
 <211> 3951  
 <212> DNA  
 <213> Homo sapiens

<400> 436  
 ctgcgcagg gatcgtccca tggccggggc tcggagccgc gacccttggg 50  
 gggcctccgg gatttgctac ctttttgggt cctgtctgt cgaactgctc 100  
 ttctcacggg ctgtgcctt caatctggac gtgatgggtg ccttgcgcaa 150  
 ggagggcgag ccaggcagcc tcttcggctt ctctgtggcc ctgcaccggc 200







tccccgtgtg acgttctga gccgtaacct ggaagaaccc aagcaccagg 1700  
 cctcggggcac cgtgtggctg aagcaccagc atgaccgagt ctgtggagac 1750  
 gccatgttcc agctccagga aaatgtcaaa gacaagcttc gggccattgt 1800  
 agtgaccttg tctacagtc tccagacccc tcggctccgg cgacaggctc 1850  
 ctggccaggg gctgcctoca gtggccccc tctcaatgc ccaccagccc 1900  
 agcaccacgc gggcagagat ccacttctg aagcaaggct gtggtgaaga 1950  
 caagatctgc cagagcaatc tgcagctggt ccacgcccgc ttctgtacc 2000  
 gggtcagcga cacggaattc caacctctgc ccatggatgt ggatggaaca 2050  
 acagccctgt ttgcactgag tgggcagcca gtcattggcc tggagctgat 2100  
 ggtcaccaac ctgccatcg accagccca gcccaggct gatggggatg 2150  
 atgcccatag agcccagctc ctggctcatgc ttctgactc actgcactac 2200  
 tcaggggtcc gggccctgga ccctgcggag aagccactct gcctgtccaa 2250  
 tgagaatgcc tcccatgttg agtgtgagct ggggaacccc atgaagagag 2300  
 gtgccagggt caccttctac ctcatcctta gcacctccgg gatcagcatt 2350  
 gagaccacgg aactggagggt agagctgctg ttggccacga tcagtgaaca 2400  
 ggagctgcat ccagtctctg cagagcccgc tgtcttcatt gagctgccac 2450  
 tgtccattgc aggaatggcc attcccagc aactcttctt ctctggtgtg 2500  
 gtgaggggag agagagccat gcagtctgag cgggatgtgg gcagcaagg 2550  
 caagtatgag gtcacgggtt ccaaccaagg ccagtcgctc agaaccctgg 2600  
 gctctgcctt cctcaacatc atgtggcctc atgagattgc caatgggaag 2650  
 tggttgctgt acccaatgca ggttgagctg gaggggcggc aggggcctgg 2700  
 gcagaaaggg ctttgcctc ccaggccca catctccac ctggatgtgg 2750  
 acagtaggga taggaggcgg cgggagctgg agccacctga gcagcaggag 2800  
 cctggtgagc ggcaggagcc cagcatgtcc tgggtggccag tgcctctgc 2850  
 tgagaagaag aaaaacatca ccctggactg cggccggggc acggccaact 2900  
 gtgtggtgtt cagctgcca ctctacagct ttgaccgcgc ggctgtgctg 2950  
 catgtctggg gccgtctctg gaacagcacc tttctggagg agtactcagc 3000  
 tgtgaagtcc ctggaagtga ttgtccgggc caacatcaca gtgaagtcct 3050  
 ccataaagaa cttgatgctc cgagatgcct ccacagtgat ccagtgatg 3100







80										85					90				
Leu	Phe	Ala	Cys	Pro	Leu	Ser	Leu	Glu	Glu	Thr	Asp	Cys	Tyr	Arg					
				95					100					105					
Val	Asp	Ile	Asp	Gln	Gly	Ala	Asp	Met	Gln	Lys	Glu	Ser	Lys	Glu					
				110					115					120					
Asn	Gln	Trp	Leu	Gly	Val	Ser	Val	Arg	Ser	Gln	Gly	Pro	Gly	Gly					
				125					130					135					
Lys	Ile	Val	Thr	Cys	Ala	His	Arg	Tyr	Glu	Ala	Arg	Gln	Arg	Val					
				140					145					150					
Asp	Gln	Ile	Leu	Glu	Thr	Arg	Asp	Met	Ile	Gly	Arg	Cys	Phe	Val					
				155					160					165					
Leu	Ser	Gln	Asp	Leu	Ala	Ile	Arg	Asp	Glu	Leu	Asp	Gly	Gly	Glu					
				170					175					180					
Trp	Lys	Phe	Cys	Glu	Gly	Arg	Pro	Gln	Gly	His	Glu	Gln	Phe	Gly					
				185					190					195					
Phe	Cys	Gln	Gln	Gly	Thr	Ala	Ala	Ala	Phe	Ser	Pro	Asp	Ser	His					
				200					205					210					
Tyr	Leu	Leu	Phe	Gly	Ala	Pro	Gly	Thr	Tyr	Asn	Trp	Lys	Gly	Thr					
				215					220					225					
Ala	Arg	Val	Glu	Leu	Cys	Ala	Gln	Gly	Ser	Ala	Asp	Leu	Ala	His					
				230					235					240					
Leu	Asp	Asp	Gly	Pro	Tyr	Glu	Ala	Gly	Gly	Glu	Lys	Glu	Gln	Asp					
				245					250					255					
Pro	Arg	Leu	Ile	Pro	Val	Pro	Ala	Asn	Ser	Tyr	Phe	Gly	Phe	Ser					
				260					265					270					
Ile	Asp	Ser	Gly	Lys	Gly	Leu	Val	Arg	Ala	Glu	Glu	Leu	Ser	Phe					
				275					280					285					
Val	Ala	Gly	Ala	Pro	Arg	Ala	Asn	His	Lys	Gly	Ala	Val	Val	Ile					
				290					295					300					
Leu	Arg	Lys	Asp	Ser	Ala	Ser	Arg	Leu	Val	Pro	Glu	Val	Met	Leu					
				305					310					315					
Ser	Gly	Glu	Arg	Leu	Thr	Ser	Gly	Phe	Gly	Tyr	Ser	Leu	Ala	Val					
				320					325					330					
Ala	Asp	Leu	Asn	Ser	Asp	Gly	Trp	Pro	Asp	Leu	Ile	Val	Gly	Ala					
				335					340					345					
Pro	Tyr	Phe	Phe	Glu	Arg	Gln	Glu	Glu	Leu	Gly	Gly	Ala	Val	Tyr					
				350					355					360					
Val	Tyr	Leu	Asn	Gln	Gly	Gly	His	Trp	Ala	Gly	Ile	Ser	Pro	Leu					
				365					370					375					



Arg	Leu	Cys	Gly	Ser 380	Pro	Asp	Ser	Met	Phe 385	Gly	Ile	Ser	Leu	Ala 390
Val	Leu	Gly	Asp	Leu 395	Asn	Gln	Asp	Gly	Phe 400	Pro	Asp	Ile	Ala	Val 405
Gly	Ala	Pro	Phe	Asp 410	Gly	Asp	Gly	Lys	Val 415	Phe	Ile	Tyr	His	Gly 420
Ser	Ser	Leu	Gly	Val 425	Val	Ala	Lys	Pro	Ser 430	Gln	Val	Leu	Glu	Gly 435
Glu	Ala	Val	Gly	Ile 440	Lys	Ser	Phe	Gly	Tyr 445	Ser	Leu	Ser	Gly	Ser 450
Leu	Asp	Met	Asp	Gly 455	Asn	Gln	Tyr	Pro	Asp 460	Leu	Leu	Val	Gly	Ser 465
Leu	Ala	Asp	Thr	Ala 470	Val	Leu	Phe	Arg	Ala 475	Arg	Pro	Ile	Leu	His 480
Val	Ser	His	Glu	Val 485	Ser	Ile	Ala	Pro	Arg 490	Ser	Ile	Asp	Leu	Glu 495
Gln	Pro	Asn	Cys	Ala 500	Gly	Gly	His	Ser	Val 505	Cys	Val	Asp	Leu	Arg 510
Val	Cys	Phe	Ser	Tyr 515	Ile	Ala	Val	Pro	Ser 520	Ser	Tyr	Ser	Pro	Thr 525
Val	Ala	Leu	Asp	Tyr 530	Val	Leu	Asp	Ala	Asp 535	Thr	Asp	Arg	Arg	Leu 540
Arg	Gly	Gln	Val	Pro 545	Arg	Val	Thr	Phe	Leu 550	Ser	Arg	Asn	Leu	Glu 555
Glu	Pro	Lys	His	Gln 560	Ala	Ser	Gly	Thr	Val 565	Trp	Leu	Lys	His	Gln 570
His	Asp	Arg	Val	Cys 575	Gly	Asp	Ala	Met	Phe 580	Gln	Leu	Gln	Glu	Asn 585
Val	Lys	Asp	Lys	Leu 590	Arg	Ala	Ile	Val	Val 595	Thr	Leu	Ser	Tyr	Ser 600
Leu	Gln	Thr	Pro	Arg 605	Leu	Arg	Arg	Gln	Ala 610	Pro	Gly	Gln	Gly	Leu 615
Pro	Pro	Val	Ala	Pro 620	Ile	Leu	Asn	Ala	His 625	Gln	Pro	Ser	Thr	Gln 630
Arg	Ala	Glu	Ile	His 635	Phe	Leu	Lys	Gln	Gly 640	Cys	Gly	Glu	Asp	Lys 645
Ile	Cys	Gln	Ser	Asn 650	Leu	Gln	Leu	Val	His 655	Ala	Arg	Phe	Cys	Thr 660
Arg	Val	Ser	Asp	Thr	Glu	Phe	Gln	Pro	Leu	Pro	Met	Asp	Val	Asn



				665					670					675
Gly	Thr	Thr	Ala	Leu	Phe	Ala	Leu	Ser	Gly	Gln	Pro	Val	Ile	Gly
				680					685					690
Leu	Glu	Leu	Met	Val	Thr	Asn	Leu	Pro	Ser	Asp	Pro	Ala	Gln	Pro
				695					700					705
Gln	Ala	Asp	Gly	Asp	Asp	Ala	His	Glu	Ala	Gln	Leu	Leu	Val	Met
				710					715					720
Leu	Pro	Asp	Ser	Leu	His	Tyr	Ser	Gly	Val	Arg	Ala	Leu	Asp	Pro
				725					730					735
Ala	Glu	Lys	Pro	Leu	Cys	Leu	Ser	Asn	Glu	Asn	Ala	Ser	His	Val
				740					745					750
Glu	Cys	Glu	Leu	Gly	Asn	Pro	Met	Lys	Arg	Gly	Ala	Gln	Val	Thr
				755					760					765
Phe	Tyr	Leu	Ile	Leu	Ser	Thr	Ser	Gly	Ile	Ser	Ile	Glu	Thr	Thr
				770					775					780
Glu	Leu	Glu	Val	Glu	Leu	Leu	Leu	Ala	Thr	Ile	Ser	Glu	Gln	Glu
				785					790					795
Leu	His	Pro	Val	Ser	Ala	Arg	Ala	Arg	Val	Phe	Ile	Glu	Leu	Pro
				800					805					810
Leu	Ser	Ile	Ala	Gly	Met	Ala	Ile	Pro	Gln	Gln	Leu	Phe	Phe	Ser
				815					820					825
Gly	Val	Val	Arg	Gly	Glu	Arg	Ala	Met	Gln	Ser	Glu	Arg	Asp	Val
				830					835					840
Gly	Ser	Lys	Val	Lys	Tyr	Glu	Val	Thr	Val	Ser	Asn	Gln	Gly	Gln
				845					850					855
Ser	Leu	Arg	Thr	Leu	Gly	Ser	Ala	Phe	Leu	Asn	Ile	Met	Trp	Pro
				860					865					870
His	Glu	Ile	Ala	Asn	Gly	Lys	Trp	Leu	Leu	Tyr	Pro	Met	Gln	Val
				875					880					885
Glu	Leu	Glu	Gly	Gly	Gln	Gly	Pro	Gly	Gln	Lys	Gly	Leu	Cys	Ser
				890					895					900
Pro	Arg	Pro	Asn	Ile	Leu	His	Leu	Asp	Val	Asp	Ser	Arg	Asp	Arg
				905					910					915
Arg	Arg	Arg	Glu	Leu	Glu	Pro	Pro	Glu	Gln	Gln	Glu	Pro	Gly	Glu
				920					925					930
Arg	Gln	Glu	Pro	Ser	Met	Ser	Trp	Trp	Pro	Val	Ser	Ser	Ala	Glu
				935					940					945
Lys	Lys	Lys	Asn	Ile	Thr	Leu	Asp	Cys	Ala	Arg	Gly	Thr	Ala	Asn
				950					955					960







<400> 439  
gctgctgggg actgcaatgt agct 24

<210> 440

<211> 46

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 440

catcctccat gtctcccatg aggtctctat tgctccacga agcatc 46

<210> 441

<211> 1964

<212> DNA

<213> Homo sapiens

<400> 441

cgcgccgggc gcagggagct gagtggacgg ctcgagacgg cggcgcgtgc 50  
agcagctcca gaaagcagcg agttggcaga gcagggctgc atttccagca 100  
ggagctgcga gcacagtgtc ggctcacaac aagatgtctc aggtgtcagc 150  
cgtactgtgt gtgtgtgcag ccgcttggtg cagtcagtct ctcgcagctg 200  
ccgcggcggg ggctgcagcc ggggggcggg cggacggcgg taattttctg 250  
gatgataaac aatgggtcac cacaatctct cagtatgaca aggaagtcgg 300  
acagtggaac aaattccgag acgaagtaga ggatgattat ttccgcactt 350  
ggagtccagg aaaacccttc gatcaggctt tagatccagc taaggatcca 400  
tgcttaaaga tgaaatgtag tcgccataaa gtatgcattg ctcaagattc 450  
tcagactgca gtctgcatta gtcaccggag gcttacacac aggatgaaag 500  
aagcaggagt agaccatagg cagtggaggg gtcccatatt atccacctgc 550  
aagcagtgcc cagtgggtcta tcccagccct gtttgtgggt cagatgggtca 600  
tacctactct tttcagtgc aactagaata tcaggcatgt gtcttaggaa 650  
aacagatctc agtcaaagt gaaggacatt gcccatgtcc ttcagataag 700  
cccaccagta caagcagaaa tgtaagaga gcatgcagtg acctggagtt 750  
caggggaagt gcaaacagat tgcgggactg gttcaaggcc cttcatgaaa 800  
gtggaagtca aaacaagaag acaaaaacat tgctgaggcc tgagagaagc 850  
agattcgata ccagcatctt gccaatgtgc aaggactcac ttggctggat 900  
gtttaacaga cttgatacaa actatgacct gctattggac cagtcagagc 950



tcagaagcat ttaccttgat aagaatgaac agtgtaccaa ggcattcttc 1000  
aattcttgtg acacatacaa ggacagttta atatctaata atgagtgggtg 1050  
ctactgcttc cagagacagc aagacccacc ttgccagact gagctcagca 1100  
atattcagaa gcggcaaggg gtaaagaagc tcctaggaca gtatatcccc 1150  
ctgtgtgatg aagatgggta ctacaagcca acacaatgtc atggcagtgt 1200  
tggacagtgc tgggtgtgtg acagatatgg aaatgaagtc atgggatcca 1250  
gaataaatgg tgttgcatg tgtgctatag attttgagat ctccggagat 1300  
tttgctagtg gcgattttca tgaatggact gatgatgagg atgatgaaga 1350  
cgatattatg aatgatgaag atgaaattga agatgatgat gaagatgaag 1400  
gggatgatga tgatgggtgt gatgaccatg atgtatacat ttgattgatg 1450  
acagttgaaa tcaataaatt ctacatttct aatatttaca aaaatgatag 1500  
cctattttaa attatcttct tccccataa caaatgatt ctaaacctca 1550  
catatatatt gtataattat ttgaaaaatt gcagctaaag ttatagaact 1600  
ttatgtttta ataagaatca ttgtctttga gtttttatat tccttacaca 1650  
aaaagaaaat acatatgcag tctagtcaga caaaataaag ttttgaagtg 1700  
ctactataat aaatttttca cgagaacaaa ctttgtaaatt cttccataag 1750  
caaatgaca gctagtgcct gggatcgta atgttaattt ttgaaagat 1800  
aattctaagt gaaattttaa ataaataaat ttttaatgac ctgggtctta 1850  
aggatttagg aaaaatatgc atgctttaat tgcatttcca aagtagcatc 1900  
ttgctagacc tagatgagtc aggataacag agagatacca catgactcca 1950  
aaaaaaaaaa aaaa 1964

<210> 442  
<211> 436  
<212> PRT  
<213> Homo sapiens

<400> 442  
Met Leu Lys Val Ser Ala Val Leu Cys Val Cys Ala Ala Ala Trp  
1 5 10 15  
Cys Ser Gln Ser Leu Ala Ala Ala Ala Val Ala Ala Ala Gly  
20 25 30  
Gly Arg Ser Asp Gly Gly Asn Phe Leu Asp Asp Lys Gln Trp Leu  
35 40 45  
Thr Thr Ile Ser Gln Tyr Asp Lys Glu Val Gly Gln Trp Asn Lys



50									55					60	
Phe	Arg	Asp	Glu	Val 65	Glu	Asp	Asp	Tyr	Phe 70	Arg	Thr	Trp	Ser	Pro 75	
Gly	Lys	Pro	Phe	Asp 80	Gln	Ala	Leu	Asp	Pro 85	Ala	Lys	Asp	Pro	Cys 90	
Leu	Lys	Met	Lys	Cys 95	Ser	Arg	His	Lys	Val 100	Cys	Ile	Ala	Gln	Asp 105	
Ser	Gln	Thr	Ala	Val 110	Cys	Ile	Ser	His	Arg 115	Arg	Leu	Thr	His	Arg 120	
Met	Lys	Glu	Ala	Gly 125	Val	Asp	His	Arg	Gln 130	Trp	Arg	Gly	Pro	Ile 135	
Leu	Ser	Thr	Cys	Lys 140	Gln	Cys	Pro	Val	Val 145	Tyr	Pro	Ser	Pro	Val 150	
Cys	Gly	Ser	Asp	Gly 155	His	Thr	Tyr	Ser	Phe 160	Gln	Cys	Lys	Leu	Glu 165	
Tyr	Gln	Ala	Cys	Val 170	Leu	Gly	Lys	Gln	Ile 175	Ser	Val	Lys	Cys	Glu 180	
Gly	His	Cys	Pro	Cys 185	Pro	Ser	Asp	Lys	Pro 190	Thr	Ser	Thr	Ser	Arg 195	
Asn	Val	Lys	Arg	Ala 200	Cys	Ser	Asp	Leu	Glu 205	Phe	Arg	Glu	Val	Ala 210	
Asn	Arg	Leu	Arg	Asp 215	Trp	Phe	Lys	Ala	Leu 220	His	Glu	Ser	Gly	Ser 225	
Gln	Asn	Lys	Lys	Thr 230	Lys	Thr	Leu	Leu	Arg 235	Pro	Glu	Arg	Ser	Arg 240	
Phe	Asp	Thr	Ser	Ile 245	Leu	Pro	Ile	Cys	Lys 250	Asp	Ser	Leu	Gly	Trp 255	
Met	Phe	Asn	Arg	Leu 260	Asp	Thr	Asn	Tyr	Asp 265	Leu	Leu	Leu	Asp	Gln 270	
Ser	Glu	Leu	Arg	Ser 275	Ile	Tyr	Leu	Asp	Lys 280	Asn	Glu	Gln	Cys	Thr 285	
Lys	Ala	Phe	Phe	Asn 290	Ser	Cys	Asp	Thr	Tyr 295	Lys	Asp	Ser	Leu	Ile 300	
Ser	Asn	Asn	Glu	Trp 305	Cys	Tyr	Cys	Phe	Gln 310	Arg	Gln	Gln	Asp	Pro 315	
Pro	Cys	Gln	Thr	Glu 320	Leu	Ser	Asn	Ile	Gln 325	Lys	Arg	Gln	Gly	Val 330	
Lys	Lys	Leu	Leu	Gly 335	Gln	Tyr	Ile	Pro	Leu 340	Cys	Asp	Glu	Asp	Gly 345	



Tyr	Tyr	Lys	Pro	Thr	Gln	Cys	His	Gly	Ser	Val	Gly	Gln	Cys	Trp
				350					355					360
Cys	Val	Asp	Arg	Tyr	Gly	Asn	Glu	Val	Met	Gly	Ser	Arg	Ile	Asn
				365					370					375
Gly	Val	Ala	Asp	Cys	Ala	Ile	Asp	Phe	Glu	Ile	Ser	Gly	Asp	Phe
				380					385					390
Ala	Ser	Gly	Asp	Phe	His	Glu	Trp	Thr	Asp	Asp	Glu	Asp	Asp	Glu
				395					400					405
Asp	Asp	Ile	Met	Asn	Asp	Glu	Asp	Glu	Ile	Glu	Asp	Asp	Asp	Glu
				410					415					420
Asp	Glu	Gly	Asp	Asp	Asp	Asp	Gly	Gly	Asp	Asp	His	Asp	Val	Tyr
				425					430					435

Ile

<210> 443  
 <211> 25  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 443  
 cagcaatatt cagaagcggc aaggg 25

<210> 444  
 <211> 28  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 444  
 catcatgggc atcaccacca tcatcatc 28

<210> 445  
 <211> 48  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 445  
 ggttactaca agccaacaca atgtcatggc agtggtggac agtgctgg 48

<210> 446  
 <211> 3617  
 <212> DNA  
 <213> Homo sapiens



<400> 446

cagactccag atttccctgt caaccacgag gagtccagag aggaaacgcg 50  
gagcggagac aacagtacct gacgcctctt tcagcccggg atcgccccag 100  
cagggatggg cgacaagatc tggctgccct tccccgtgct ctttctggcc 150  
gctctgcctc cggtgctgct gcctggggcg gccggcttca caccttccct 200  
cgatagcgac ttcaccttta cccttccgc cggccagaag gagtgtttct 250  
accagcccat gccctgaag gcctcgctgg agatcgagta ccaagtttta 300  
gatggagcag gattagatat tgatttccat cttgcctctc cagaaggcaa 350  
aaccttagtt tttgaacaaa gaaaatcaga tggagtccac actgtagaga 400  
ctgaagttgg tgattacatg ttctgctttg acaatacatt cagcaccatt 450  
tctgagaagg tgattttctt tgaattaatc ctggataata tgggagaaca 500  
ggcacaagaa caagaagatt ggaagaaata tattactggc acagatatat 550  
tggatatgaa actggaagac atcctggaat ccatcaacag catcaagtcc 600  
agactaagca aaagtgggca catacaaatt ctgcttagag catttgaagc 650  
tcgtgatcga aacatacaag aaagcaactt tgatagagtc aatttctggt 700  
ctatggttaa tttagtggtc atggtggtgg tgtcagccat tcaagtttat 750  
atgctgaaga gtctgtttga agataagagg aaaagtagaa cttaaaactc 800  
caaactagag tacgtaacat tgaaaaatga ggcataaaaa tgcaataaac 850  
tgttacagtc aagaccatta atggtcttct ccaaaatatt ttgagatata 900  
aaagtaggaa acaggtataa ttttaatgtg aaaattaagt cttcactttc 950  
tgtgcaagta atcctgctga tccagttgta cttaagtgtg taacaggaat 1000  
attttgcaga atataggttt aactgaatga agccatatta ataactgcat 1050  
tttcctaact ttgaaaaatt ttgcaaatgt cttaggtgat ttaaataaat 1100  
gagtattggg cctaattgca acaccagtct gtttttaaca ggttctatta 1150  
cccagaactt ttttgtaaat gcggcagtta caaattaact gtggaagttt 1200  
tcagttttaa gttataaatc acctgagaat tacctaata tggattgaat 1250  
aaatctttag actacaaaag cccaactttt ctctatttac atatgcatct 1300  
ctcctataat gtaaatagaa taatagcttt gaaatacaat taggtttttg 1350  
agatttttat aaccaaatac atttcagtgt aacatattag cagaaagcat 1400  
tagtctttgt actttgctta cattcccaaa agctgacatt ttcaogattc 1450



ttaaaaacac aaagttacac ttactaaaat taggacatgt tttctctttg 1500  
 aaatgaagaa tatagtttaa aagcttcctc ctccataggg acacattttc 1550  
 tctaaccctt aactaaagt taggatttta aaattaaatg tgaggtaaaa 1600  
 taagtttatt tttaatagta tctgtcaagt taatatctgt caacagttaa 1650  
 taatcatgtt atgttaattt taacatgatt gctgacttgg ataattcatt 1700  
 attaccagca gttatgaagg aaatattgct aaaatgatct gggcctacca 1750  
 taaataaata tctccttttc tgagctctaa gaattatcag aaaacaggaa 1800  
 agaatttaga aaaacttgag aaaacctaata ccaaaataaa attcacttaa 1850  
 gtagaactat aaataaatat ctagaatctg actggctcat catgacatcc 1900  
 tactcataac ataaatcaaa ggagatgatt aatttcacgt tagctggaag 1950  
 aaactttggc tgtaggtttt tattttctac aagaattctg gtttgaatta 2000  
 tttttgtaag caggtacatt ttataaaatg taagccctac tgtaaggttt 2050  
 agcactgggt gtacatatat attaaaaatt tttattataa caacttttat 2100  
 taaaatggcc tttctgaaca ctttatttat tgatgttgaa gtaaggatta 2150  
 gaaacataga ctccaagtt ttaaacacct aaatgtgaat aacctatata 2200  
 tacaacaaag tttctgccat ctagcttttt gaagtctatg ggggtcttac 2250  
 tcaagtacta gtaatttaac ttcacatga atgaactata atttttaagt 2300  
 tatgcccatt tataacgttg tttatgacta cattgtgagt tagaaacaaa 2350  
 cttaaaattt ggggtataga acccctcaac aggttagtaa tgctggaatt 2400  
 cttgatgagc aataatgata accagagagt gatttcattt aactcatag 2450  
 tagtataaaa agagatacat ttccctctta ggcccctggg agaagagcag 2500  
 cttagatttc cctactggca aggtttttta aaatgaggta aatgccgtat 2550  
 atgatcaatt accttaattg gccaaagaaa tgcttcaggt gtctaggggt 2600  
 atcctctgca aacttgcag aacaaaggtc aataagatcc ttgcctatga 2650  
 ataccctcc cttttgcgt gttaaatttg caatgagaag caaatttaca 2700  
 gtaccataac taataaagca gggtagagat ataaactact gcacttttc 2750  
 tataaaaactg tgattaagaa ttctacctct cctgtatggc tgttactgta 2800  
 ctgtactctc tgactcctta cctaacaatg aatttgttac ataactttct 2850  
 acatgtatga tttgtgccac tgatcttaaa cctatgattc agtaacttct 2900







110	115	120
Phe Phe Glu Leu Ile Leu Asp Asn Met	Gly Glu Gln Ala Gln Glu	
125	130	135
Gln Glu Asp Trp Lys Lys Tyr Ile Thr	Gly Thr Asp Ile Leu Asp	
140	145	150
Met Lys Leu Glu Asp Ile Leu Glu Ser	Ile Asn Ser Ile Lys Ser	
155	160	165
Arg Leu Ser Lys Ser Gly His Ile Gln	Ile Leu Leu Arg Ala Phe	
170	175	180
Glu Ala Arg Asp Arg Asn Ile Gln Glu	Ser Asn Phe Asp Arg Val	
185	190	195
Asn Phe Trp Ser Met Val Asn Leu Val	Val Met Val Val Val Ser	
200	205	210
Ala Ile Gln Val Tyr Met Leu Lys Ser	Leu Phe Glu Asp Lys Arg	
215	220	225
Lys Ser Arg Thr		

<210> 448  
 <211> 23  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 448  
 cccagcaggg ctgggcgaca aga 23

<210> 449  
 <211> 23  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 449  
 gtcttccagt ttcatatcca ata 23

<210> 450  
 <211> 43  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 450  
 ccagaaggag cacggggaag ggcagccaga tcttgtcgcc cat 43



<210> 451  
 <211> 859  
 <212> DNA  
 <213> Homo sapiens

<400> 451  
 ccatccctga gatcttttta taaaaaaccc agtctttgct gaccagacaa 50  
 agcataccag atctcaccag agagtcgcag acactatgct gcctcccatg 100  
 gccctgccca gtgtgtcctg gatgctgctt tcctgcctca ttctcctgtg 150  
 tcaggttcaa ggtgaagaaa ccagaagga actgccctct ccacggatca 200  
 gctgtcccaa aggctccaag gcctatggct cccctgcta tgccttggtt 250  
 ttgtcaccaa aatcctggat ggatgcagat ctggccttgcc agaagcggcc 300  
 ctctggaaaa ctggtgtctg tgctcagtgg ggctgaggga tccttcgtgt 350  
 cctccctggg gaggagcatt agtaacagct actcatacat ctggattggg 400  
 ctccatgacc ccacacaggg ctctgagcct gatggagatg gatgggagtg 450  
 gagtagcact gatgtgatga attactttgc atgggagaaa aatccctcca 500  
 ccatcttaaa ccctggccac tgtgggagcc tgtcaagaag cacaggattt 550  
 ctgaagtgga aagattataa ctgtgatgca aagttaccct atgtctgcaa 600  
 gttcaaggac tagggcaggt gggagtcag cagcctcagc ttggcgtgca 650  
 gctcatcatg gacatgagac cagtgtgaag actcacctg gaagagaata 700  
 ttctcccaa actgccctac ctgactacct tgtcatgac ctccttcttt 750  
 ttcttttttc ttcaccttca ttccaggctt ttctctgtct tccatgtctt 800  
 gagatctcag agaataataa taaaaatggt actttataaa aaaaaaaaaa 850  
 aaaaaaaaaa 859

<210> 452  
 <211> 175  
 <212> PRT  
 <213> Homo sapiens

<400> 452  
 Met Leu Pro Pro Met Ala Leu Pro Ser Val Ser Trp Met Leu Leu  
 1 5 10 15  
 Ser Cys Leu Ile Leu Leu Cys Gln Val Gln Gly Glu Glu Thr Gln  
 20 25 30  
 Lys Glu Leu Pro Ser Pro Arg Ile Ser Cys Pro Lys Gly Ser Lys  
 35 40 45  
 Ala Tyr Gly Ser Pro Cys Tyr Ala Leu Phe Leu Ser Pro Lys Ser



				50					55					60
Trp	Met	Asp	Ala	Asp 65	Leu	Ala	Cys	Gln	Lys 70	Arg	Pro	Ser	Gly	Lys 75
Leu	Val	Ser	Val	Leu 80	Ser	Gly	Ala	Glu	Gly 85	Ser	Phe	Val	Ser	Ser 90
Leu	Val	Arg	Ser	Ile 95	Ser	Asn	Ser	Tyr	Ser 100	Tyr	Ile	Trp	Ile	Gly 105
Leu	His	Asp	Pro	Thr 110	Gln	Gly	Ser	Glu	Pro 115	Asp	Gly	Asp	Gly	Trp 120
Glu	Trp	Ser	Ser	Thr 125	Asp	Val	Met	Asn	Tyr 130	Phe	Ala	Trp	Glu	Lys 135
Asn	Pro	Ser	Thr	Ile 140	Leu	Asn	Pro	Gly	His 145	Cys	Gly	Ser	Leu	Ser 150
Arg	Ser	Thr	Gly	Phe 155	Leu	Lys	Trp	Lys	Asp 160	Tyr	Asn	Cys	Asp	Ala 165
Lys	Leu	Pro	Tyr	Val 170	Cys	Lys	Phe	Lys	Asp 175					

```
<210> 453
<211> 550
<212> DNA
<213> Homo sapiens
```

```
<400> 453
ccagtcctgtc gccacotcac ttggtgtctg ctgtccccgc caggcaagcc 50
tggggtgaga gcacagagga gtgggcccgg accatgcggg ggacgcggct 100
ggcgctcctg gcgctggtgc tggctgcctg cggagagctg gcgcgggcc 150
tgcgctgcta cgtctgtccg gagcccacag gagtgtcggg ctgtgtcacc 200
atcgccacct gcaccaccaa cgaaaccatg tgcaagacca cactctactc 250
ccgggagata gtgtaccoc tccaggggga ctccacggtg accaagtoc 300
gtgccagcaa gtgtaagccc tcggatgtgg atggcatcgg ccagaccctg 350
cccgtgtcct gctgcaatac tgagctgtgc aatgtagacg gggcgccgc 400
tctgaacagc ctccactgcg gggccctcac gtcctccca ctottgagcc 450
tccgactgta gagtccccgc ccaccccat ggccctatgc ggcccagccc 500
cgaatgcctt gaagaaqtgc ccctgcacc aggaaaaaaaa aaaaaaaaaa 550
```

```
<210> 454
<211> 125
<212> PRT
<213> Homo sapiens
```



<400> 454

Met Arg Gly Thr Arg Leu Ala Leu Leu Ala Leu Val Leu Ala Ala  
1 5 10 15

Cys Gly Glu Leu Ala Pro Ala Leu Arg Cys Tyr Val Cys Pro Glu  
20 25 30

Pro Thr Gly Val Ser Asp Cys Val Thr Ile Ala Thr Cys Thr Thr  
35 40 45

Asn Glu Thr Met Cys Lys Thr Thr Leu Tyr Ser Arg Glu Ile Val  
50 55 60

Tyr Pro Phe Gln Gly Asp Ser Thr Val Thr Lys Ser Cys Ala Ser  
65 70 75

Lys Cys Lys Pro Ser Asp Val Asp Gly Ile Gly Gln Thr Leu Pro  
80 85 90

Val Ser Cys Cys Asn Thr Glu Leu Cys Asn Val Asp Gly Ala Pro  
95 100 105

Ala Leu Asn Ser Leu His Cys Gly Ala Leu Thr Leu Leu Pro Leu  
110 115 120

Leu Ser Leu Arg Leu  
125

<210> 455

<211> 1518

<212> DNA

<213> Homo sapiens

<400> 455

ctgcagtcag gactctggga ccgcaggggg ctcccggacc ctgactctgc 50

agccgaaccg gcacggtttc gtggggaccc aggcttgcaa agtgacggtc 100

atcttctctt tctttctccc tcttgagtcc ttctgagatg atggctctgg 150

gcgcagcggg agctacccgg gtctttgtcg cgatggtagc ggcggctctc 200

ggcggccacc ctctgctggg agtgagcgcc accttgaact cggttctcaa 250

ttccaacgct atcaagaacc tgccccacc gctggggcggc gctgcggggc 300

accaggctc tgcagtcagc gccgcgccgg gaatcctgta cccgggcggg 350

aataagtacc agaccattga caactaccag ccgtaccctg gcgcagagga 400

cgaggagtgc ggcactgatg agtactgcgc tagtcccacc cgcggagggg 450

acgcaggcgt gcaaactctgt ctgcctgca ggaagcgccg aaaacgctgc 500

atgcgtcacg ctatgtgctg ccccggaat tactgcaaaa atggaatatg 550

tgtgtcttct gatcaaaatc atttccgagg agaaattgag gaaaccatca 600











cggcggccac cttntgctgg gagtgagcgc caccttgaat cggttttcaa 250  
 ttccaacgnt atcaagaacc tgccccacc gntgggcggc gctgcggggc 300  
 acccaggnnt tgcagtcagc gccgcgccgg gaatcctgta cccggggcggg 350  
 aataagtacc agaccattga caattaccag ccgtaccctg gcgcagagga 400  
 cgaggagtgc ggcactgatg agtactgcgc tagtcccacc cgcggagggg 450  
 angcggggcgt gcaaatntgt ntngcctgca ggaagcgccg aaaacgctgc 500  
 atgcgtcang ctatgtgctg ccccggaat tactgcaaaa atggaatatg 550  
 tgtgtnttct gatcaaaatc atttccgagg agaaattgag gaaaccatca 600  
 ctgaaagctt tggtaatgat catagcacct tggatggg 638

<210> 458

<211> 4040

<212> DNA

<213> Homo sapiens

<400> 458

gaggaaccta ccggtaccgg ccgcgcgctg gtagtcgccg gtgtggctgc 50  
 acctcaccaa tcccgctgcgc cgcggtctgg ccgtcggaga gtgcgtgtgc 100  
 ttctctcctg cacgcggtgc ttgggctcgg ccaggcgggg tccgccgcca 150  
 gggtttgagg atgggggagt agctacagga agcgaccccg cgatggcaag 200  
 gtatatTTTT gtggaatgaa aaggaaagtat tagaaatgag ctgaagacca 250  
 ttcacagatt aatatTTTT gggacagatt tgtgatgctt gattcacctt 300  
 tgaagtaatg tagacagaag ttctcaaatt tgcataattac atcaactgga 350  
 accagcagtg aatcttaatg ttacttaaaa tcagaacttg cataagaaaag 400  
 agaatgggag tctggttaaa taaagatgac tatatcagag acttgaaaag 450  
 gatcattctc tgTTTTctga tagtgatat ggccatttta gtgggcacag 500  
 atcaggattt ttacagttta cttggagtgt ccaaaactgc aagcagtaga 550  
 gaaataagac aagctttcaa gaaattggca ttgaagttaac atcctgataa 600  
 aaaccgaat aacccaaatg cacatggcga ttttttaaaa ataaatagag 650  
 catatgaagt actcaaagat gaagatctac ggaaaaagta tgacaaatat 700  
 ggagaaaagg gacttgagga taatcaaggt ggccagtatg aaagctggaa 750  
 ctattatcgt tatgattttg gtatttatga tgatgatcct gaaatcataa 800  
 cattggaaaag aagagaatTT gatgctgctg ttaattctgg agaactgtgg 850



tttgtaaatt tttactcccc aggctgttca cactgccatg atttagctcc 900  
 cacatggaga gacttttgcta aagaagtgga tgggttactt cgaattggag 950  
 ctgttaactg tggatgatgat agaattgcttt gccgaatgaa aggagtcaac 1000  
 agctatccca gtctcttcat ttttcgggtct ggaatggccc cagtgaataa 1050  
 tcatggagac agatcaaagg agagtttagt gagttttgca atgcagcatg 1100  
 ttagaagtac agtgacagaa ctttggacag gaaattttgt caactccata 1150  
 caaactgctt ttgctgctgg tattggctgg ctgatcactt tttgttcaa 1200  
 aggaggagat tgtttgactt cacagacacg actcaggctt agtggcatgt 1250  
 tgtttctcaa ctcatggat gctaaagaaa tatatttga agtaatacat 1300  
 aatcttccag attttgaact actttcggca aacacactag aggatcgttt 1350  
 ggctcatcat cgggtggctgt tttttttca ttttgaaaa aatgaaaatt 1400  
 caaatgatcc tgagctgaaa aaactaaaaa ctctacttaa aaatgatcat 1450  
 attcaagttg gcaggtttga ctgttcctct gcaccagaca tctgtagtaa 1500  
 tctgtatgtt tttcagccgt ctctagcagt atttaaagga caaggaacca 1550  
 aagaatatga aattcatcat ggaaagaaga ttctatatga tatacttgcc 1600  
 tttgccaaag aaagtgtgaa ttctcatgtt accacgcttg gacctcaaaa 1650  
 ttttcctgcc aatgacaaag aacctgggtt tgttgatttc tttgccccct 1700  
 ggtgtccacc atgtcgagct ttactaccag agttacgaag agcatcaaat 1750  
 cttctttatg gtcagcttaa gtttggta caatgattga cagtccatga 1800  
 gggactctgt aacatgtata acattcaggc ttatccaaca acagtggat 1850  
 tcaaccagtc caacattcat gagtatgaag gacatcactc tgctgaacaa 1900  
 atcttgagat tcatagagga tcttatgaat ccttcagtgg tctcccttac 1950  
 acccaccacc ttcaacgaac tagttacaca aagaaaacac aacgaagtct 2000  
 ggatggttga tttctattct ccgtgggtgtc atccttgcca agtcttaatg 2050  
 ccagaatgga aaagaatggc ccggacatta actggactga tcaacgtggg 2100  
 cagtatagat tgccaacagt atcattcttt ttgtgccag gaaaacgttc 2150  
 aaagataccc tgagataaga ttttttcccc caaatcaaa taaagcttat 2200  
 cagtatcaca gttacaatgg ttggaatagg gatgcttatt ccctgagaat 2250  
 ctgggggtcta ggatttttac ctcaagtatc cacagatcta acacctcaga 2300



ctttcagtgga	aaaagtttcta	caaggggaaaa	atcattggggt	gatttgatttc	2350
tatgctcctt	ggtgtggacc	ttgccagaat	tttgctccag	aatttgagct	2400
cttggtctagg	atgattaaag	gaaaagtga	agctggaaaa	gtagactgtc	2450
aggcttatgc	tcagacatgc	cagaaagctg	ggatcagggc	ctatccaact	2500
gttaagtttt	atttctacga	aagagcaaag	agaaattttc	aagaagagca	2550
gataaatacc	agagatgcaa	aagcaatcgc	tgccttaata	agtgaaaaat	2600
tggaaactct	ccgaaatcaa	ggcaagagga	ataaggatga	actttgataa	2650
tgttgaagat	gaagaaaaag	tttaaaagaa	attctgacag	atgacatcag	2700
aagacaccta	tttagaatgt	tacattttatg	atgggaatga	atgaacatta	2750
tcttagactt	gcagttgtac	tgccagaatt	atctacagca	ctggtgtaaa	2800
agaaggggtct	gcaaactttt	tctgtaaagg	gccggtttat	aaatatttta	2850
gactttgcag	gctataatat	atggttcaca	catgagaaca	agaatagagt	2900
catcatgtat	tctttgttat	ttgcttttaa	caacctttaa	aaaatattaa	2950
aacgattctt	agctcagagc	catacaaaag	taggctggat	tcagtccatg	3000
gaccatagat	tgctgtcccc	ctcgacggac	ttataatgtt	tcaggtggct	3050
ggcttgaaca	tgagtctgct	gtgctatcta	cataaatgtc	taagttgtat	3100
aaagtccact	ttcccttcac	gttttttggc	tgacctgaaa	agaggtaact	3150
tagtttttgg	tcacttgttc	tcctaaaaat	gctatcccta	accatatatt	3200
tatatttcgt	tttaaaaaca	cccatgatgt	ggcacagtaa	acaaaccctg	3250
ttatgctgta	ttattatgag	gagattcttc	attgttttct	ttccttctca	3300
aaggttgaaa	aatgctttt	aatttttcac	agccgagaaa	cagtgcagca	3350
gtatatgtgc	acacagtaag	tacacaaatt	tgagcaacag	taagtgcaca	3400
aattctgtag	tttgctgtat	catccaggaa	aacctgaggg	aaaaaaatta	3450
tagcaattaa	ctgggcattg	tagagtatcc	taaatatgtt	atcaagtatt	3500
tagagttcta	tattttaaag	atatatgtgt	tcatgtattt	tctgaaattg	3550
ctttcataga	aattttccca	ctgatagtgt	atttttgagg	catctaatat	3600
ttacatattt	gccttctgaa	ctttgttttg	acctgtatcc	tttatttaca	3650
ttgggttttt	ctttcatagt	tttggttttt	cactcctgtc	cagtctattt	3700
attattcaaa	taggaaaaat	tactttacag	gttgtttttac	tqtaqcttat	3750



aatgatactg tagttattcc agttactagt ttactgtcag agggctgcct 3800  
 ttttcagata aatattgaca taataactga agttatTTTT ataagaaaat 3850  
 caagtatata aatctaggaa agggatcttc tagtttctgt gttgtttaga 3900  
 ctcaaagaat cacaaatttg tcagtaacat gtagttgttt agttataatt 3950  
 cagagtgtac agaatggtaa aaattccaat cagtcaaaag aggtcaatga 4000  
 attaaaaggc ttgcaacttt ttcaaaaaaa aaaaaaaaaa 4040

<210> 459  
 <211> 747  
 <212> PRT  
 <213> Homo sapiens

<400> 459

Met	Gly	Val	Trp	Leu	Asn	Lys	Asp	Asp	Tyr	Ile	Arg	Asp	Leu	Lys	1	5	10	15
Arg	Ile	Ile	Leu	Cys	Phe	Leu	Ile	Val	Tyr	Met	Ala	Ile	Leu	Val	20	25	30	
Gly	Thr	Asp	Gln	Asp	Phe	Tyr	Ser	Leu	Leu	Gly	Val	Ser	Lys	Thr	35	40	45	
Ala	Ser	Ser	Arg	Glu	Ile	Arg	Gln	Ala	Phe	Lys	Lys	Leu	Ala	Leu	50	55	60	
Lys	Leu	His	Pro	Asp	Lys	Asn	Pro	Asn	Asn	Pro	Asn	Ala	His	Gly	65	70	75	
Asp	Phe	Leu	Lys	Ile	Asn	Arg	Ala	Tyr	Glu	Val	Leu	Lys	Asp	Glu	80	85	90	
Asp	Leu	Arg	Lys	Lys	Tyr	Asp	Lys	Tyr	Gly	Glu	Lys	Gly	Leu	Glu	95	100	105	
Asp	Asn	Gln	Gly	Gly	Gln	Tyr	Glu	Ser	Trp	Asn	Tyr	Tyr	Arg	Tyr	110	115	120	
Asp	Phe	Gly	Ile	Tyr	Asp	Asp	Asp	Pro	Glu	Ile	Ile	Thr	Leu	Glu	125	130	135	
Arg	Arg	Glu	Phe	Asp	Ala	Ala	Val	Asn	Ser	Gly	Glu	Leu	Trp	Phe	140	145	150	
Val	Asn	Phe	Tyr	Ser	Pro	Gly	Cys	Ser	His	Cys	His	Asp	Leu	Ala	155	160	165	
Pro	Thr	Trp	Arg	Asp	Phe	Ala	Lys	Glu	Val	Asp	Gly	Leu	Leu	Arg	170	175	180	
Ile	Gly	Ala	Val	Asn	Cys	Gly	Asp	Asp	Arg	Met	Leu	Cys	Arg	Met	185	190	195	
Lys	Gly	Val	Asn	Ser	Tyr	Pro	Ser	Leu	Phe	Ile	Phe	Arg	Ser	Gly				











<400> 460  
 actccccagg ctgttcacac tgcc 24  
  
 <210> 461  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 461  
 gatcagccag ccaataccag cagc 24  
  
 <210> 462  
 <211> 50  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe

<400> 462  
 gtggtgatga tagaatgctt tgccgaatga aaggagtcaa cagctatccc 50  
  
 <210> 463  
 <211> 1818  
 <212> DNA  
 <213> Homo sapiens  
  
 <400> 463  
 agacagtacc tcctccctag gactacacaa ggactgaacc agaaggaaga 50  
 ggacagagca aagccatgaa catcatccta gaaatccttc tgctttctgat 100  
 caccatcatc tactcctact tggagtcggt ggtgaagttt ttcattcctc 150  
 agaggagaaa atctgtggct ggggagattg ttctcattac tggagctggg 200  
 catggaatag gcaggcagac tacttatgaa ttgcaaaac gacagagcat 250  
 attggttctg tgggatatta ataagcgcgg tgtggaggaa actgcagctg 300  
 agtgccgaaa actaggcgtc actgcgcatg cgtatgtggt agactgcagc 350  
 aacagagaag agatctatcg ctctctaaat caggtgaaga aagaagtggg 400  
 tgatgtaaca atcgtgggtga ataatgctgg gacagtatat ccagccgatc 450  
 ttctcagcac caaggatgaa gagattacca agacatttga ggtcaacatc 500  
 ctaggacatt tttggatcac aaaagcaatt cttccatcga tgatggagag 550  
 aaatcatggc cacatcgtca cagtggcttc agtgtgcggc cacgaaggga 600  
 ttccttacct catcccatat tgttccagca aatttgccgc tgttggcttt 650  
 cacagaggtc tgacatcaga acttcaggcc ttgggaaaaa ctggtatcaa 700



aacctcatgt	ctctgcccag	tttttgtgaa	tactggggttc	acccaaaaatc	750
caagcacaag	attatggcct	gtattggaga	cagatgaagt	cgtaagaagt	800
ctgatagatg	gaatacttac	caataagaaa	atgattttttg	ttccatcgta	850
tatcaatatc	tttctgagac	tacagaagtt	tcttcctgaa	cgcgcctcag	900
cgatttttaa	tcgtatgcag	aatattcaat	ttgaagcagt	ggttggccac	950
aaaatcaaaa	tgaaatgaat	aaataagctc	cagccagaga	tgtatgcatg	1000
ataatgatat	gaatagtttc	gaatcaatgc	tgcaaagctt	tatttcacat	1050
tttttcagtc	ctgataatat	taaaaacatt	ggtttggcac	tagcagcagt	1100
caaacgaaca	agattaatta	cctgtcttcc	tgtttctcaa	gaatattttac	1150
gtagtttttc	ataggtctgt	ttttcctttc	atgcctctta	aaaacttctg	1200
tgcttacata	aacatactta	aaagggttttc	tttaagatat	tttattttttc	1250
catttaaagg	tggacaaaag	ctacctcctt	aaaagtaa	ataagagaa	1300
cttattttaca	cagggaagg	ttaagactgt	tcaagtagca	ttccaatctg	1350
tagccatgcc	acagaatatc	aacaagaaca	cagaatgagt	gcacagctaa	1400
gagatcaagt	ttcagcaggc	agcttttatct	caacctggac	atatttttaag	1450
attcagcatt	tgaaagattt	ccctagcctc	ttccttttttc	attagcccaa	1500
aacggtgcaa	ctctattctg	gactttatta	cttgattctg	tcttctgtat	1550
aactctgaag	tccacaaaaa	gtggaccctc	tatatttcct	cccttttttat	1600
agtcttataa	gatacattat	gaaagggtgac	cgactctatt	ttaa	1650
gaatttttaag	ttctagcccc	atgataacct	ttttctttgt	aattttatgct	1700
ttcatatatc	cttgggtccca	gagatgttta	gacaatttta	ggctcaaaaa	1750
ttaaagctaa	cacaggaaaa	ggaactgtac	tggctattac	ataagaaaca	1800
atggacccaa	gagaagaa				1818

<210> 464

<212> PRT

<213> Homo sapiens

<400> 464

Tyr Ser Tyr Leu Glu Ser Leu Val Lys Phe Phe Ile Pro Gln Arg  
20 25 30







<400> 465

cggcggcggc tgcgggcgcg aggtgagggg cgcgaggtga ggggcgcgag 50  
gttcccagca ggatgccccg gctctgcagg aagctgaagt gagaggcccc 100  
gagaggggcc agcccgcccc gggcaggatg accaaggccc ggctgttccg 150  
gctgtggctg gtgctggggt cgggtgttcat gatcctgctg atcatcgtgt 200  
actgggacag cgcaggcgcc gcgcacttct acttgcacac gtccttctct 250  
aggccgcaca cggggccgcc gctgcccacg cccgggccgg acagggacag 300  
ggagctcacg gccgactccg atgtcgacga gtttctggac aagtttctca 350  
gtgctggcgt gaagcagagc gaccttccca gaaaggagac ggagcagccg 400  
cctgcgccgg ggagcatgga ggagagcgtg agaggctacg actggtcccc 450  
gcgcgacgcc cggcgcagcc cagaccaggg ccggcagcag gcggagcggg 500  
ggagcgtgct gcggggcttc tgcgccaact ccagcctggc cttccccacc 550  
aaggagcgcg cattcgacga catccccaac tcggagctga gccacctgat 600  
cgtggacgac cggcacgggg ccatctactg ctacgtgcc aaggtggcct 650  
gcaccaactg gaagcgcgtg atgatcgtgc tgagcggaag cctgctgcac 700  
cgcggtgcgc cctaccgcga cccgctgcgc atcccgcgcg agcacgtgca 750  
caacgccagc gcgcacctga ccttcaacaa gttctggcgc cgctacggga 800  
agctctcccc ccacctcatg aaggtcaagc tcaagaagta caccaagttc 850  
ctcttcgtgc gcgacctt cgtgcgcctg atctccgcct tccgcagca 900  
gttcgagctg gagaacgagg agttctaccg caagttcgcc gtgccccatgc 950  
tgcggtgta cgccaaccac accagcctgc ccgcctcggc gcgcgaggcc 1000  
ttccgcgctg gcctcaaggt gtccttcgcc aacttcatcc agtacctgct 1050  
ggaccgcac acggagaagc tggcgccctt caacgagcac tggcggcagg 1100  
tgtaccgcct ctgccaccg tgccagatcg actacgactt cgtggggaag 1150  
ctggagactc tggacgagga cgccgcgcag ctgctgcagc tactccaggt 1200  
ggaccggcag ctccgcttcc ccccgagcta ccggaacagg accgccagca 1250  
gctgggagga ggactggttc gccaaagatcc ccctggcctg gaggcagcag 1300  
ctgtataaac tctacgaggc cgactttgtt ctcttcggct accccaagcc 1350  
cgaaaacctc ctccgagact gaaagcttgc gcgttgcttt ttctcgcgtg 1400  
cctggaacct gacgcagcg cactccagtt tttttatgac ctacgatttt 1450



gcaatctggg cttcttggtc actccactgc ctctatccat tgagtactgt 1500

atcgatatgg ttttttaaga ttaatatatt tcaggatattt aatacga 1547

<210> 466

<211> 414

<212> PRT

<213> Homo sapiens

<400> 466

Met Thr Lys Ala Arg Leu Phe Arg Leu Trp Leu Val Leu Gly Ser  
1 5 10 15

Val Phe Met Ile Leu Leu Ile Ile Val Tyr Trp Asp Ser Ala Gly  
20 25 30

Ala Ala His Phe Tyr Leu His Thr Ser Phe Ser Arg Pro His Thr  
35 40 45

Gly Pro Pro Leu Pro Thr Pro Gly Pro Asp Arg Asp Arg Glu Leu  
50 55 60

Thr Ala Asp Ser Asp Val Asp Glu Phe Leu Asp Lys Phe Leu Ser  
65 70 75

Ala Gly Val Lys Gln Ser Asp Leu Pro Arg Lys Glu Thr Glu Gln  
80 85 90

Pro Pro Ala Pro Gly Ser Met Glu Glu Ser Val Arg Gly Tyr Asp  
95 100 105

Trp Ser Pro Arg Asp Ala Arg Arg Ser Pro Asp Gln Gly Arg Gln  
110 115 120

Gln Ala Glu Arg Arg Ser Val Leu Arg Gly Phe Cys Ala Asn Ser  
125 130 135

Ser Leu Ala Phe Pro Thr Lys Glu Arg Ala Phe Asp Asp Ile Pro  
140 145 150

Asn Ser Glu Leu Ser His Leu Ile Val Asp Asp Arg His Gly Ala  
155 160 165

Ile Tyr Cys Tyr Val Pro Lys Val Ala Cys Thr Asn Trp Lys Arg  
170 175 180

Val Met Ile Val Leu Ser Gly Ser Leu Leu His Arg Gly Ala Pro  
185 190 195

Tyr Arg Asp Pro Leu Arg Ile Pro Arg Glu His Val His Asn Ala  
200 205 210

Ser Ala His Leu Thr Phe Asn Lys Phe Trp Arg Arg Tyr Gly Lys  
215 220 225

Leu Ser Arg His Leu Met Lys Val Lys Leu Lys Lys Tyr Thr Lys  
230 235 240







ctgaggagac ctctgcccag ggattccgcc agctgctgga gctgaaccta 450  
 ctggggacgt acaccttgac caagctcgcc ctcccctacc tgcggaagag 500  
 tcaagggaat gtcataca tctccagcct ggtgggggca atcggccagg 550  
 cccaggcagt tccctatgtg gccaccaagg gggcagtaac agccatgacc 600  
 aaagcttttg ccttgatga aagtccatat ggtgtccgag tcaactgtat 650  
 ctccccagga aacatctgga ccccgtgtg ggaggagctg gcagccttaa 700  
 tgccagaccc tagggccaca atccgagagg gcatgctggc ccagccactg 750  
 ggccgcatgg gccagcccg ctaggtcggg gctgcggcag tgttcctggc 800  
 ctccgaagcc aacttctgca cgggcattga actgctcgtg acgggggggtg 850  
 cagagctggg gtacgggtgc aaggccagtc ggagcacccc cgtggacgcc 900  
 cccgatatcc cttcctgatt tctctcattt ctacttgggg ccccttct 950  
 aggactctcc caccctaaac tccaacctgt atcagatgca gcccccaagc 1000  
 ccttagactc taagcccagt tagcaagggt cggggtcacc ctgcaggttc 1050  
 ccataaaaac gatttgcagc c 1071

<210> 468

<211> 270

<212> PRT

<213> Homo sapiens

<400> 468

Met Ala Thr Gly Thr Arg Tyr Ala Gly Lys Val Val Val Val Thr  
 1 5 10 15

Gly Gly Gly Arg Gly Ile Gly Ala Gly Ile Val Arg Ala Phe Val  
 20 25 30

Asn Ser Gly Ala Arg Val Val Ile Cys Asp Lys Asp Glu Ser Gly  
 35 40 45

Gly Arg Ala Leu Glu Gln Glu Leu Pro Gly Ala Val Phe Ile Leu  
 50 55 60

Cys Asp Val Thr Gln Glu Asp Asp Val Lys Thr Leu Val Ser Glu  
 65 70 75

Thr Ile Arg Arg Phe Gly Arg Leu Asp Cys Val Val Asn Asn Ala  
 80 85 90

Gly His His Pro Pro Pro Gln Arg Pro Glu Glu Thr Ser Ala Gln  
 95 100 105

Gly Phe Arg Gln Leu Leu Glu Leu Asn Leu Leu Gly Thr Tyr Thr  
 110 115 120



Leu	Thr	Lys	Leu	Ala	Leu	Pro	Tyr	Leu	Arg	Lys	Ser	Gln	Gly	Asn	
				125					130					135	
Val	Ile	Asn	Ile	Ser	Ser	Leu	Val	Gly	Ala	Ile	Gly	Gln	Ala	Gln	
				140					145					150	
Ala	Val	Pro	Tyr	Val	Ala	Thr	Lys	Gly	Ala	Val	Thr	Ala	Met	Thr	
				155					160					165	
Lys	Ala	Leu	Ala	Leu	Asp	Glu	Ser	Pro	Tyr	Gly	Val	Arg	Val	Asn	
				170					175					180	
Cys	Ile	Ser	Pro	Gly	Asn	Ile	Trp	Thr	Pro	Leu	Trp	Glu	Glu	Leu	
				185					190					195	
Ala	Ala	Leu	Met	Pro	Asp	Pro	Arg	Ala	Thr	Ile	Arg	Glu	Gly	Met	
				200					205					210	
Leu	Ala	Gln	Pro	Leu	Gly	Arg	Met	Gly	Gln	Pro	Ala	Glu	Val	Gly	
				215					220					225	
Ala	Ala	Ala	Val	Phe	Leu	Ala	Ser	Glu	Ala	Asn	Phe	Cys	Thr	Gly	
				230					235					240	
Ile	Glu	Leu	Leu	Val	Thr	Gly	Gly	Ala	Glu	Leu	Gly	Tyr	Gly	Cys	
				245					250					255	
Lys	Ala	Ser	Arg	Ser	Thr	Pro	Val	Asp	Ala	Pro	Asp	Ile	Pro	Ser	
				260					265					270	

<210> 469

<211> 687

<212> DNA

<213> Homo sapiens

<400> 469

```

aggcgggcag cagctgcagg ctgacctgac agcttggcgg aatggactgg 50
cctcacaacc tgctgtttct tcttaccatt tccatcttcc tggggctggg 100
ccagcccagg agcccaaaaa gcaagaggaa ggggcaaggg cggcctgggc 150
ccctggcccc tggccctcac caggtgccac tggacctggt gtcacggatg 200
aaaccgtatg cccgcatgga ggagtatgag aggaacatcg aggagatggt 250
ggcccagctg aggaacagct cagagctggc ccagagaaag tgtgaggtca 300
acttgacgct gtggatgtcc aacaagagga gcctgtctcc ctggggctac 350
agcatcaacc acgaccccag ccgtatcccc gtggacctgc cggaggcacg 400
gtgcctgtgt ctgggtgtg tgaaccctt caccatgcag gaggaccgca 450
gcatggtgag cgtgccggtg ttcagccagg ttcctgtgag ccgccgcctc 500
tgcccggcac cgccccgcac agggccttgc cgccagcgcg cagtcatgga 550

```



gaccatcgct gtgggctgca cctgcatctt ctgaatcacc tggcccagaa 600  
gccaggccag cagcccgaga ccatactcct tgcacctttg tgccaagaaa 650  
ggcctatgaa aagtaaacac tgacttttga aagcaag 687

<210> 470  
<211> 180  
<212> PRT  
<213> Homo sapiens

<400> 470  
Met Asp Trp Pro His Asn Leu Leu Phe Leu Leu Thr Ile Ser Ile  
1 5 10 15  
Phe Leu Gly Leu Gly Gln Pro Arg Ser Pro Lys Ser Lys Arg Lys  
20 25 30  
Gly Gln Gly Arg Pro Gly Pro Leu Ala Pro Gly Pro His Gln Val  
35 40 45  
Pro Leu Asp Leu Val Ser Arg Met Lys Pro Tyr Ala Arg Met Glu  
50 55 60  
Glu Tyr Glu Arg Asn Ile Glu Glu Met Val Ala Gln Leu Arg Asn  
65 70 75  
Ser Ser Glu Leu Ala Gln Arg Lys Cys Glu Val Asn Leu Gln Leu  
80 85 90  
Trp Met Ser Asn Lys Arg Ser Leu Ser Pro Trp Gly Tyr Ser Ile  
95 100 105  
Asn His Asp Pro Ser Arg Ile Pro Val Asp Leu Pro Glu Ala Arg  
110 115 120  
Cys Leu Cys Leu Gly Cys Val Asn Pro Phe Thr Met Gln Glu Asp  
125 130 135  
Arg Ser Met Val Ser Val Pro Val Phe Ser Gln Val Pro Val Arg  
140 145 150  
Arg Arg Leu Cys Pro Pro Pro Pro Arg Thr Gly Pro Cys Arg Gln  
155 160 165  
Arg Ala Val Met Glu Thr Ile Ala Val Gly Cys Thr Cys Ile Phe  
170 175 180

<210> 471  
<211> 2368  
<212> DNA  
<213> Homo sapiens

<400> 471  
gcgcccgcag gcgtaggcgg ggtggccctt gcgtctcccg cttccttgaa 50  
aaacccggcg ggcgagcgag gctgcgggcc ggccgctgcc cttccccaca 100



ctccccgccg agaagcctcg ctgggcgcc aacatggcgg gtgggcgctg 150  
cggccccgag ctaacggcgc tcctggccgc ctggatcgcg gctgtggcgg 200  
cgacggcagg ccccgaggag gccgcgctgc cgccggagca gagccgggtc 250  
cagcccatga ccgcctccaa ctggacgctg gtgatggagg gcgagtggat 300  
gctgaaattht tacgccccat ggtgtccatc ctgccagcag actgattcag 350  
aatgggaggc ttttgcaaag aatggtgaaa tacttcagat cagtgtgggg 400  
aaggtagatg tcattcaaga accaggthtg agtggccgct tctttgtcac 450  
cactctccca gcattthttc atgcaaagga tgggatattc cgccgttatt 500  
gtggcccagg aatcttcgaa gacctgcaga attatatctt agagaagaaa 550  
tggcaatcag tcgagcctct gactggctgg aaatccccag cttctctaac 600  
gatgtctgga atggctggtc thtttagcat ctctggcaag atatggcatc 650  
ttcacaacta tttcacagtg actcttgga ttcctgcttg gtgttcttat 700  
gtgtthtttcg tcatagccac cttggthttt ggcctthtta tgggtctggt 750  
cttggtggta atatcagaat gthttctatgt gccacttcca aggcatttat 800  
ctgagcgthc tgagcagaat cggagatcag aggaggctca tagagctgaa 850  
cagthgcagg atgcggagga ggaaaaagat gattcaaag aagaagaaaa 900  
caaagacagc cthgtagatg atgaagaaga gaaagaagat cthggcgatg 950  
aggatgaagc agaggaagaa gaggaggagg acaacttggc tgctggtgtg 1000  
gatgaggaga gaagtgaggc caatgatcag gggccccag gagaggacgg 1050  
tgtgaccgag gaggaagtag agcctgagga ggctgaagaa ggcattctctg 1100  
agcaacctg cccagctgac acagaggtgg tggaagactc cthgaggcag 1150  
cgtaaaagtc agcatgctga caagggactg tagatttaat gatgcgttht 1200  
caagaataca caccaaaaca atatgtcagc thccctthtg cctgcagtht 1250  
gtaccaaatc cthaatthtt cctgaatgag caagcttctc thaaaagatg 1300  
ctctctagtc atthggctct atggcagtaa gcctcatgta tactaaggag 1350  
agtctthccag gtgtgacaat caggatatag aaaaacaaac gtagtgthtg 1400  
gatctgthtg gagactggga tgggaacaag thcatttact taggggtcag 1450  
agagtctcga ccagaggagg ccattcccag thctaatacag cacctthccag 1500  
agacaaggct gcaggccctg tgaaatgaaa gccaagcagg agcctthggct 1550



cctgagcatc cccaaagtgt aacgtagaag ccttgcatcc ttttcttgtg 1600  
taaagtatTTt atTTttgtca aattgcagga aacatcaggc accacagtgc 1650  
atgaaaaatc tttcacagct agaaattgaa agggccttgg gtatagagag 1700  
cagctcagaa gtcatcccag ccctctgaat ctctgtgct atgttttatt 1750  
tcttaccttt aatTTttcca gcatttccac catggggcatt caggctctcc 1800  
acactcttca ctattatctc ttggtcagag gactccaata acagccaggt 1850  
ttacatgaac tgtgtttgtt cattctgacc taaggggttt agataatcag 1900  
taaccataac ccctgaagct gtgactgcc aacatctcaa atgaaatgtt 1950  
gtggccatca gagactcaaa aggaagtaag gattttacaa gacagattaa 2000  
aaaaaaattg ttttgtccaa aatatagttg ttgttgattt ttttttaagt 2050  
tttctaagca atatTTttca agccagaagt cctctaagtc ttgccagtac 2100  
aaggtagtct tgtgaagaaa agttgaatac tgttttgttt tcatctcaag 2150  
gggttccctg ggtcttgaac tactttaata ataactaaaa aaccatttct 2200  
gattttcctt cagtgatgtg cttttggtga aagaattaat gaactccagt 2250  
acctgaaagt gaaagatttg atTTttgttc catcttctgt aatcttccaa 2300  
agaattatat ctttgtaaat ctctcaatac tcaatctact gtaagtaccc 2350  
agggaggcta atttcttt 2368

<210> 472

<211> 349

<212> PRT

<213> Homo sapiens

<400> 472

Met	Ala	Gly	Gly	Arg	Cys	Gly	Pro	Gln	Leu	Thr	Ala	Leu	Leu	Ala
1				5					10					15
Ala	Trp	Ile	Ala	Ala	Val	Ala	Ala	Thr	Ala	Gly	Pro	Glu	Glu	Ala
			20					25						30
Ala	Leu	Pro	Pro	Glu	Gln	Ser	Arg	Val	Gln	Pro	Met	Thr	Ala	Ser
			35					40						45
Asn	Trp	Thr	Leu	Val	Met	Glu	Gly	Glu	Trp	Met	Leu	Lys	Phe	Tyr
			50					55						60
Ala	Pro	Trp	Cys	Pro	Ser	Cys	Gln	Gln	Thr	Asp	Ser	Glu	Trp	Glu
			65					70						75
Ala	Phe	Ala	Lys	Asn	Gly	Glu	Ile	Leu	Gln	Ile	Ser	Val	Gly	Lys
			80					85						90



Val	Asp	Val	Ile	Gln	Glu	Pro	Gly	Leu	Ser	Gly	Arg	Phe	Phe	Val	95	100	105
Thr	Thr	Leu	Pro	Ala	Phe	Phe	His	Ala	Lys	Asp	Gly	Ile	Phe	Arg	110	115	120
Arg	Tyr	Arg	Gly	Pro	Gly	Ile	Phe	Glu	Asp	Leu	Gln	Asn	Tyr	Ile	125	130	135
Leu	Glu	Lys	Lys	Trp	Gln	Ser	Val	Glu	Pro	Leu	Thr	Gly	Trp	Lys	140	145	150
Ser	Pro	Ala	Ser	Leu	Thr	Met	Ser	Gly	Met	Ala	Gly	Leu	Phe	Ser	155	160	165
Ile	Ser	Gly	Lys	Ile	Trp	His	Leu	His	Asn	Tyr	Phe	Thr	Val	Thr	170	175	180
Leu	Gly	Ile	Pro	Ala	Trp	Cys	Ser	Tyr	Val	Phe	Phe	Val	Ile	Ala	185	190	195
Thr	Leu	Val	Phe	Gly	Leu	Phe	Met	Gly	Leu	Val	Leu	Val	Val	Ile	200	205	210
Ser	Glu	Cys	Phe	Tyr	Val	Pro	Leu	Pro	Arg	His	Leu	Ser	Glu	Arg	215	220	225
Ser	Glu	Gln	Asn	Arg	Arg	Ser	Glu	Glu	Ala	His	Arg	Ala	Glu	Gln	230	235	240
Leu	Gln	Asp	Ala	Glu	Glu	Glu	Lys	Asp	Asp	Ser	Asn	Glu	Glu	Glu	245	250	255
Asn	Lys	Asp	Ser	Leu	Val	Asp	Asp	Glu	Glu	Glu	Lys	Glu	Asp	Leu	260	265	270
Gly	Asp	Glu	Asp	Glu	Ala	Glu	Glu	Glu	Glu	Glu	Glu	Asp	Asn	Leu	275	280	285
Ala	Ala	Gly	Val	Asp	Glu	Glu	Arg	Ser	Glu	Ala	Asn	Asp	Gln	Gly	290	295	300
Pro	Pro	Gly	Glu	Asp	Gly	Val	Thr	Arg	Glu	Glu	Val	Glu	Pro	Glu	305	310	315
Glu	Ala	Glu	Glu	Gly	Ile	Ser	Glu	Gln	Pro	Cys	Pro	Ala	Asp	Thr	320	325	330
Glu	Val	Val	Glu	Asp	Ser	Leu	Arg	Gln	Arg	Lys	Ser	Gln	His	Ala	335	340	345

Asp Lys Gly Leu

<210> 473

<211> 24

<212> DNA

<213> Artificial Sequence



<220>  
<223> Synthetic oligonucleotide probe

<400> 473  
gtccagccca tgaccgcctc caac 24

<210> 474  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 474  
ctctcctcat ccacaccagc agcc 24

<210> 475  
<211> 44  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 475  
gtggatgctg aaattttacg ccccatgggtg tccatcctgc cagc 44

<210> 476  
<211> 2478  
<212> DNA  
<213> Homo sapiens

<400> 476  
atctggttga actacttaag cttaatttgt taaactccgg taagtaccta 50  
gccacatga ttgactcag agattctott ttgtccacag acagtcattct 100  
caggggcaga aagaaaagag ctcccaaagt ctatatctat tcaggggctc 150  
tcaagaacaa tggaatatca tcctgattta gaaaatttgg atgaagatgg 200  
atataactcaa ttacacttcg actctcaaag caataccagg atagctgttg 250  
tttcagagaa aggatcgtgt gctgcatctc ctcttggcg cctcattgct 300  
gtaatttttg gaatcctatg cttggtaata ctggtgatag ctgtggtcct 350  
gggtaccatg ggggttcttt ccagcccttg tcctcctaatt tggattatat 400  
atgagaagag ctgttatcta ttcagcatgt cactaaattc ctgggatgga 450  
agtaaaagac aatgctggca actgggctct aatctcctaa agatagacag 500  
ctcaaatgaa ttgggattta tagtaaaaca agtgtcttcc caacctgata 550  
attcattttg gataggcctt tctcggcccc agactgaggt accatggctc 600



tgggaggatg	gatcaacatt	ctcttctaac	ttatttccaga	tcagaaccac	650
agctacccaa	gaaaacccat	ctccaaattg	tgtatggatt	cacgtgtcag	700
tcatttatga	ccaactgtgt	agtgtgccct	catatagtat	ttgtgagaag	750
aagttttcaa	tgtaagagga	agggtgaggaga	aggagagaga	aatatgtgag	800
gtagtaagga	ggacagaaaa	cagaacagaa	aagagtaaca	gctgaggtca	850
agataaatgc	agaaaatggt	tagagagcct	ggccaactgt	aatcttaacc	900
aagaaaattga	agggagaggc	tgtgatttct	gtatttgtcg	acctacaggt	950
aggctagtat	tatTTTTtcta	gttagtagat	ccctagacat	ggaatcaggg	1000
cagccaagct	tgagttttta	ttttttatTT	atttattttt	ttgagatagg	1050
gtctcacttt	gttaccocagg	ctggagtgc	gtggcacaat	ctcgactcac	1100
tgcagctatc	tctcgccctca	gcccctcaag	tagctgggac	tacaggtgca	1150
tgccaccatg	ccaggctaata	ttttgggtgt	ttttgtagag	actgggtttt	1200
gccatgttga	ccaagctgggt	ctctaactcc	tgggcttaag	tgatctgccc	1250
gccttggcct	cccaaagtgc	tgggattaca	gatgtgagcc	accacacctg	1300
gccccaaagct	tgaattttca	ttctgccatt	gacttggcat	ttaccttggg	1350
taagccataa	gcgaatctta	atttctggct	ctatcagagt	tgtttcatgc	1400
tcaacaatgc	cattgaagtg	cacggtgtgt	tgccacgatt	tgaccctcaa	1450
cttctagcag	tatatcagtt	atgaactgag	ggtgaaatat	atttctgaat	1500
agctaaatga	agaaatggga	aaaaatcttc	accacagtca	gagcaatttt	1550
attatttttca	tcagtatgat	cataattatg	attatcatct	tagtaaaaag	1600
caggaaactcc	tacttttttct	ttatcaatta	aatagctcag	agagtacatc	1650
tgccatatct	ctaataagaat	cttttttttt	tttttttttt	tttgagacag	1700
agtttcgctc	ttgttgccca	ggctggagtg	caacggcacg	atctcggtct	1750
accgcaacct	ccgccccctg	ggttcaagca	attctcctgc	ctcagcctcc	1800
caagtagctg	ggattacagt	caggcaccac	cacacccggc	taattttgta	1850
tttttttagt	agagacaggg	tttctccatg	tcggtcaggg	tagtcccgaa	1900
ctcctgacct	caagtgatct	gcctgcctcg	gcctcccaag	tgctgggatt	1950
acaggcgtga	gccactgcac	ccagcctaga	atcttgata	atatgtaatt	2000
gtagggaaaac	tgctctcata	ggaaagtttt	ctgcttttta	aatacaaaaa	2050



tacataaaaa tacataaaat ctgatgatga atataaaaaa gtaaccaacc 2100  
tcattggaac aagtattaac attttggaat atgttttatt agttttgtga 2150  
tgtactgttt tacaattttt accatttttt tcagtaatta ctgtaaaatg 2200  
gtattattgg aatgaaacta tatttcctca tgtgctgatt tgtcttattt 2250  
tttccatact ttcccactgg tgctattttt atttccaatg gatattttctg 2300  
tattactagg gaggcattta cagtcctcta atgttgatta atatgtgaaa 2350  
agaaattgta ccaattttac taaattatgc agttttaaata ggatgatttt 2400  
atgttatgtg gatttcattt caataaaaaa aaactcttat caaaaaaaaaa 2450  
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 2478

<210> 477  
<211> 201  
<212> PRT  
<213> Homo sapiens

<400> 477  
Met Glu Tyr His Pro Asp Leu Glu Asn Leu Asp Glu Asp Gly Tyr  
1 5 10 15  
Thr Gln Leu His Phe Asp Ser Gln Ser Asn Thr Arg Ile Ala Val  
20 25 30  
Val Ser Glu Lys Gly Ser Cys Ala Ala Ser Pro Pro Trp Arg Leu  
35 40 45  
Ile Ala Val Ile Leu Gly Ile Leu Cys Leu Val Ile Leu Val Ile  
50 55 60  
Ala Val Val Leu Gly Thr Met Gly Val Leu Ser Ser Pro Cys Pro  
65 70 75  
Pro Asn Trp Ile Ile Tyr Glu Lys Ser Cys Tyr Leu Phe Ser Met  
80 85 90  
Ser Leu Asn Ser Trp Asp Gly Ser Lys Arg Gln Cys Trp Gln Leu  
95 100 105  
Gly Ser Asn Leu Leu Lys Ile Asp Ser Ser Asn Glu Leu Gly Phe  
110 115 120  
Ile Val Lys Gln Val Ser Ser Gln Pro Asp Asn Ser Phe Trp Ile  
125 130 135  
Gly Leu Ser Arg Pro Gln Thr Glu Val Pro Trp Leu Trp Glu Asp  
140 145 150  
Gly Ser Thr Phe Ser Ser Asn Leu Phe Gln Ile Arg Thr Thr Ala  
155 160 165  
Thr Gln Glu Asn Pro Ser Pro Asn Cys Val Trp Ile His Val Ser







<400> 482

ggaaggggag gagcaggcca cacaggcaca ggccggtgag ggacctgccc 50  
agacctggag ggtctcgctc tgtcacacag gctggagtgc agtgggtgtga 100  
tcttggtca tcgtaacctc cacctcccgg gttcaagtga ttctcatgcc 150  
tcagcctccc gagtagctgg gattacaggt ggtgacttcc aagagtgact 200  
ccgtcggagg aaaatgactc cccagtcgct gctgcagacg aactgttcc 250  
tgctgagtct gctcttcctg gtccaaggtg cccacggcag gggccacagg 300  
gaagactttc gcttctgcag ccagcggaac cagacacaca ggagcagcct 350  
ccactacaaa cccacaccag acctgcgcac ctccatcgag aactccgaag 400  
aggccctcac agtccatgcc cctttccctg cagcccaccc tgcttcccga 450  
tccttccctg accccagggg cctctaccac ttctgctct actggaaccg 500  
acatgctggg agattacatc ttctctatgg caagcgtgac ttcttgctga 550  
gtgacaaagc ctctagcctc ctctgcttcc agcaccagga ggagagcctg 600  
gctcagggcc ccccgctgtt agccacttct gtcacctct ggtggagccc 650  
tcagaacatc agcctgcccc gtgccgccag cttcaccttc tccttccaca 700  
gtcctcccca cacggccgct cacaatgcct cgggtggacat gtgcgagctc 750  
aaaagggacc tccagctgct cagccagttc ctgaagcatc cccagaaggc 800  
ctcaaggagg ccctcggtg ccccgccag ccagcagttg cagagcctgg 850  
agtcgaaact gacctctgtg agattcatgg gggacatggt gtccttcgag 900  
gaggaccgga tcaacgccac ggtgtggaag ctccagcccc cagccggcct 950  
ccaggacctg cacatccact cccggcagga ggaggagcag agcgagatca 1000  
tggtgactc ggtgctgctg cctogaacac tcttccagag gacgaaaggc 1050  
cggagcgggg aggtgagaa gagactctc ctggtggact tcagcagcca 1100  
agccctgttc caggacaaga attccagcca agtcctgggt gagaaggctc 1150  
tggttgattgt ggtacagaac accaaagtag ccaacctcac ggagcccgtg 1200  
gtgctcactt tccagacca gctacagccg aagaatgtga ctctgcaatg 1250  
tgtgttctgg gttgaagacc ccacattgag cagcccgggg cattggagca 1300  
gtgctgggtg tgagaccgtc aggagagaaa cccaaacatc ctgcttctgc 1350  
aaccacttga cctactttgc agtgctgatg gtctcctcgg tggaggtgga 1400  
cgccgtgcac aagcactacc tgagcctcct ctctacgtg ggctgtgtcg 1450



tctctgccct	ggcctgcctt	gtcaccattg	ccgcctacct	ctgctccagg	1500
gtgcccctgc	cgtgcaggag	gaaacctcgg	gactacacca	tcaaggtgca	1550
catgaacctg	ctgctggcgg	tcttcctgct	ggacacgagc	ttcctgctca	1600
gcgagccggg	ggccctgaca	ggctctgagg	ctggctgccg	agccagtgcc	1650
atcttcctgc	acttctccct	gctcacctgc	ctttcctgga	tgggcctcga	1700
ggggtacaac	ctctaccgac	tcgtggtgga	ggtctttggc	acctatgtcc	1750
ctggctacct	actcaagctg	agcgccatgg	gctggggcctt	ccccatcttt	1800
ctggtgacgc	tggtggccct	ggtggatgtg	gacaactatg	gccccatcat	1850
cttggtgtg	cataggactc	cagagggcgt	catctaccct	tocatgtgct	1900
ggatccggga	ctccctggtc	agctacatca	ccaacctggg	cctcttcagc	1950
ctggtgtttc	tgttcaacat	ggccatgcta	gccaccatgg	tggtgcagat	2000
cctgcggctg	cgccccaca	cccaaaagtg	gtcacatgtg	ctgacactgc	2050
tgggcctcag	cctggtcctt	ggcctgccct	gggccttgat	cttctttctc	2100
tttgcttctg	gcaccttcca	gcttgctgtc	ctctaccttt	tcagcatcat	2150
cacctccttc	caaggcttcc	tcctcttcat	ctggtactgg	tccatgcggc	2200
tgcaggcccg	gggtggcccc	tcccctctga	agagcaactc	agacagcgcc	2250
aggctcccca	tcagctcggg	cagcacctcg	tccagccgca	tctaggcctc	2300
cagcccacct	gcccattgtg	tgaagcagag	atgcggcctc	gtcgcacact	2350
gcctgtggcc	cccgagccag	gccagcccc	aggccagtca	gccgcagact	2400
ttggaaagcc	caacgaccat	ggagagatgg	gccgttgcca	tggtggacgg	2450
actcccgggc	tgggcttttg	aattggcctt	ggggactact	oggctctcac	2500
tcagctccca	ogggactcag	aagtgcgccg	ccatgctgcc	taggggtactg	2550
tccccacatc	tgtcccaacc	cagctggagg	cctgggtctct	ccttacaacc	2600
cctggggccca	gccctcattg	ctggggggcca	ggccttgga	cttgagggtc	2650
tggcacatcc	ttaatcctgt	gcccctgcct	gggacagaaa	tgtggctcca	2700
gttgctctgt	ctctcgtggt	caccctgagg	gcactctgca	tcctctgtca	2750
ttttaacctc	aggtggcacc	cagggcgaat	ggggcccagg	gcagaccttc	2800
agggccagag	ccctggcgga	ggagaggccc	tttgccagga	gcacagcagc	2850
agctgccta	cctctgagcc	caggccccct	ccctccctca	gccccccagt	2900



cctccctcca tcttccctgg ggttctctc ctctcccagg gcctccttgc 2950  
 tccttcgttc acagctgggg gtccccgatt ccaatgctgt tttttgggga 3000  
 gtggtttcca ggagctgcct ggtgtctgt gtaaagtgtt gtctactgca 3050  
 caagcctcgg cctgcccctg agccaggctc ggtaccgatg cgtgggctgg 3100  
 gctaggtccc tctgtccatc tgggcctttg tatgagctgc attgcccttg 3150  
 ctcaccctga ccaagcacac gcctcagagg ggcctcagc ctctcctgaa 3200  
 gccctcttgt ggcaagaact gtggaccatg ccagtcccgt ctggtttcca 3250  
 tcccaccact ccaaggactg agactgacct cctctggtga cactggccta 3300  
 gagcctgaca ctctcctaag aggttctctc caagccccc aatagctcca 3350  
 ggcgccctcg gccgcccac atggttaatt ctgtccaaca aacacacacg 3400  
 ggtagattgc tggcctgttg taggtggtag ggacacagat gaccgacctg 3450  
 gtcactcctc ctgccaacat tcagtctggt atgtgaggcg tgcgtgaagc 3500  
 aagaactcct ggagctacag ggacaggagg ccatcattcc tgcctgggaa 3550  
 tcctggaaga ctctctgcag gagtcagcgt tcaatcttga ccttgaagat 3600  
 gggaaggatg ttotTTTTac gtaccaattc ttttgtcttt tgatattaaa 3650  
 aagaagtaca tgttcattgt agagaatttg gaaactgtag aagagaatca 3700  
 agaagaaaaa taaaaatcag ctgttgtaat cgcctagcaa aaaaaaaaaa 3750  
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 3800  
 aaaaaaaaaa aaaaaaaaaa 3819

<210> 483  
 <211> 693  
 <212> PRT  
 <213> Homo sapiens

<400> 483  
 Met Thr Pro Gln Ser Leu Leu Gln Thr Thr Leu Phe Leu Leu Ser  
 1 5 10 15  
 Leu Leu Phe Leu Val Gln Gly Ala His Gly Arg Gly His Arg Glu  
 20 25 30  
 Asp Phe Arg Phe Cys Ser Gln Arg Asn Gln Thr His Arg Ser Ser  
 35 40 45  
 Leu His Tyr Lys Pro Thr Pro Asp Leu Arg Ile Ser Ile Glu Asn  
 50 55 60  
 Ser Glu Glu Ala Leu Thr Val His Ala Pro Phe Pro Ala Ala His  
 65 70 75







				365					370					375
Ser	Cys	Phe	Cys	Asn 380	His	Leu	Thr	Tyr	Phe 385	Ala	Val	Leu	Met	Val 390
Ser	Ser	Val	Glu	Val 395	Asp	Ala	Val	His	Lys 400	His	Tyr	Leu	Ser	Leu 405
Leu	Ser	Tyr	Val	Gly 410	Cys	Val	Val	Ser	Ala 415	Leu	Ala	Cys	Leu	Val 420
Thr	Ile	Ala	Ala	Tyr 425	Leu	Cys	Ser	Arg	Val 430	Pro	Leu	Pro	Cys	Arg 435
Arg	Lys	Pro	Arg	Asp 440	Tyr	Thr	Ile	Lys	Val 445	His	Met	Asn	Leu	Leu 450
Leu	Ala	Val	Phe	Leu 455	Leu	Asp	Thr	Ser	Phe 460	Leu	Leu	Ser	Glu	Pro 465
Val	Ala	Leu	Thr	Gly 470	Ser	Glu	Ala	Gly	Cys 475	Arg	Ala	Ser	Ala	Ile 480
Phe	Leu	His	Phe	Ser 485	Leu	Leu	Thr	Cys	Leu 490	Ser	Trp	Met	Gly	Leu 495
Glu	Gly	Tyr	Asn	Leu 500	Tyr	Arg	Leu	Val	Val 505	Glu	Val	Phe	Gly	Thr 510
Tyr	Val	Pro	Gly	Tyr 515	Leu	Leu	Lys	Leu	Ser 520	Ala	Met	Gly	Trp	Gly 525
Phe	Pro	Ile	Phe	Leu 530	Val	Thr	Leu	Val	Ala 535	Leu	Val	Asp	Val	Asp 540
Asn	Tyr	Gly	Pro	Ile 545	Ile	Leu	Ala	Val	His 550	Arg	Thr	Pro	Glu	Gly 555
Val	Ile	Tyr	Pro	Ser 560	Met	Cys	Trp	Ile	Arg 565	Asp	Ser	Leu	Val	Ser 570
Tyr	Ile	Thr	Asn	Leu 575	Gly	Leu	Phe	Ser	Leu 580	Val	Phe	Leu	Phe	Asn 585
Met	Ala	Met	Leu	Ala 590	Thr	Met	Val	Val	Gln 595	Ile	Leu	Arg	Leu	Arg 600
Pro	His	Thr	Gln	Lys 605	Trp	Ser	His	Val	Leu 610	Thr	Leu	Leu	Gly	Leu 615
Ser	Leu	Val	Leu	Gly 620	Leu	Pro	Trp	Ala	Leu 625	Ile	Phe	Phe	Ser	Phe 630
Ala	Ser	Gly	Thr	Phe 635	Gln	Leu	Val	Val	Leu 640	Tyr	Leu	Phe	Ser	Ile 645
Ile	Thr	Ser	Phe	Gln 650	Gly	Phe	Leu	Ile	Phe 655	Ile	Trp	Tyr	Trp	Ser 660



Met	Arg	Leu	Gln	Ala	Arg	Gly	Gly	Pro	Ser	Pro	Leu	Lys	Ser	Asn
				665					670					675
Ser	Asp	Ser	Ala	Arg	Leu	Pro	Ile	Ser	Ser	Gly	Ser	Thr	Ser	Ser
				680					685					690
Ser Arg Ile														

<210> 484  
 <211> 516  
 <212> DNA  
 <213> Homo sapiens  
 <220>  
 <221> unsure  
 <222> 68, 70, 84, 147  
 <223> unknown base

<400> 484  
 tgcctggcct gccttgtcaa caatgccgct tactctgctt ccaggttgcc 50  
 ctgccttgca gaggaaanct tcgggactac acctcaagt gcacatgaac 100  
 ctgctgctgg ccgtcttctt gctggacacg agcttcctgc tcagcgnagc 150  
 cgggtggccct gacaggctct gaaggctggc tgccgagcca gtgccatctt 200  
 cctgcacttc tctgtctcac ctgcctttcc tggatggggc tcgaggggta 250  
 caacctctac cgactcgtgg tggaggctct tggcacctat gtccctggct 300  
 acctactcaa gctgagcgcc atgggctggg gcttccccat ctttctggtg 350  
 acgctggtgg ccctggtgga tgtggacaac tatggcccca tcatcttggc 400  
 tgtgcatagg actccagagg gcgtcatcta cccttccatg tgctggatcc 450  
 gggactccct ggtcagctac atcaccaacc tgggcctctt cagcctggtg 500  
 tttctgttca acatgg 516

<210> 485  
 <211> 22  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 485  
 ggcatgggag cagtgcctgg tg 22

<210> 486  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence



<220>  
<223> Synthetic oligonucleotide probe

<400> 486  
tggaggccta gatgcggctg gacg 24

<210> 487  
<211> 2849  
<212> DNA  
<213> Homo sapiens

<220>  
<221> unsure  
<222> 2715  
<223> unknown base

<400> 487  
cggacgcgtg ggcggacgcg tgggcggaag cgtgggagga cgcgtgggct 50  
ggttcaggtc caggttttgc tttgatcctt ttcaaaaact ggagacacag 100  
aagaggggctc taggaaaaag ttttgatgg gattatgtgg aaactaccct 150  
gcgattctct gctgccagag caggctcggc gcttcacccc cagtgcagcc 200  
ttcccctggc ggtggtgaaa gagactcggg agtcgctgct tccaaagtgc 250  
ccgccgtgag tgagctctca cccagtcag ccaaagagc ctcttcgggc 300  
ttctcctgct gacatctgcc ctggccggcc agagacaggg gactcaggcg 350  
gaatccaacc tgagtagtaa attccagttt tccagcaaca aggaacagaa 400  
cggagtacaa gatcctcagc atgagagaat tattactgtg tctactaatg 450  
gaagtattca cagcccaagg tttcctcata cttatccaag aaatacggtc 500  
ttggtatgga gattagtagc agtagaggaa aatgtatgga tacaacttac 550  
gtttgatgaa agattttggc ttgaagacc agaagatgac atatgcaagt 600  
atgattttgt agaagttgag gaaccagtg atggaactat attagggcgc 650  
tggtgtggtt ctggtactgt accaggaaaa cagatttcta aaggaaatca 700  
aattaggata agatttgtat ctgatgaata ttttccttct gaaccagggt 750  
tctgcatcca ctacaacatt gtcatgccac aattcacaga agctgtgagt 800  
ccttcagtgc taccoccttc agctttgcca ctggacctgc ttaataatgc 850  
tataactgcc tttagtagct tggaagacct tattcgatat cttgaaccag 900  
agagatggca gttggactta gaagatctat ataggccaac ttggcaactt 950  
cttggcaagg cttttgtttt tggaagaaaa tccagagtgg tggatctgaa 1000  
ccttctaaca gaggaggtaa gattatacag ctgcacacct cgtaacttct 1050



cagtggtccat	aaggggaagaa	ctaaagagaa	ccgataccat	tttctggcca	1100
ggttggtctcc	tggttaaacg	ctgtggtggg	aactgtgcct	gttggtctcca	1150
caattgcaat	gaatgtcaat	gtgtcccaag	caaagttact	aaaaaatacc	1200
acgaggtcct	tcagttgaga	ccaagaccg	gtgtcagggg	attgcacaaa	1250
tcactcaccg	acgtggccct	ggagcaccat	gaggagtgtg	actgtgtgtg	1300
cagagggagc	acaggaggat	agccgcatca	ccaccagcag	ctcttgccca	1350
gagctgtgca	gtgcagtggc	tgattctatt	agagaacgta	tgcgttatct	1400
ccatccttaa	tctcagttgt	ttgcttcaag	gacctttcat	cttcaggatt	1450
tacagtgcac	tctgaaagag	gagacatcaa	acagaattag	gagttgtgca	1500
acagctcttt	tgagaggagg	cctaaaggac	aggagaaaag	gtcttcaatc	1550
gtggaagaa	aattaaatgt	tgtattaaat	agatcaccag	ctagtttcag	1600
agttaccatg	tacgtattcc	actagctggg	ttctgtattt	cagttctttc	1650
gatacggctt	agggtaatgt	cagtacagga	aaaaaactgt	gcaagtgagc	1700
acctgattcc	gttgccctgc	ttaactctaa	agctccatgt	cctgggccta	1750
aaatcgtata	aaatctggat	tttttttttt	ttttttgctc	atattcacat	1800
atgtaaacca	gaacattcta	tgtactacaa	acctgggttt	taaaaaggaa	1850
ctatgttgct	atgaattaaa	cttgtgtcat	gctgatagga	cagactggat	1900
ttttcatatt	tcttattaaa	atttctgcca	tttagaagaa	gagaactaca	1950
ttcatggttt	ggaagagata	aacctgaaaa	gaagagtggc	cttatcttca	2000
ctttatcgat	aagtcagttt	atttgtttca	ttgtgtacat	ttttatattc	2050
tccttttgac	attataactg	ttggcttttc	taatcttggt	aaatatatct	2100
atttttacca	aaggtattta	atattctttt	ttatgacaac	ttagatcaac	2150
tatttttagc	ttggtaaatt	tttctaaaca	caattgttat	agccagagga	2200
acaaagatga	tataaaaatat	tgttgctctg	acaaaaatac	atgtattttca	2250
ttctcgtatg	gtgctagagt	tagattaatc	tgcattttaa	aaaactgaat	2300
tggaatagaa	ttggtaagtt	gcaaagactt	tttgaaaata	attaaattat	2350
catatcttcc	attcctgtta	ttggagatga	aaataaaaag	caacttatga	2400
aagtagacat	tcagatccag	ccattactaa	cctattcctt	ttttggggaa	2450
atctgagcct	agctcagaaa	aacataaagc	accttgaaaa	agacttggca	2500







Leu	Glu	Asp	Leu	Ile	Arg	Tyr	Leu	Glu	Pro	Glu	Arg	Trp	Gln	Leu	
				200					205					210	
Asp	Leu	Glu	Asp	Leu	Tyr	Arg	Pro	Thr	Trp	Gln	Leu	Leu	Gly	Lys	
				215					220					225	
Ala	Phe	Val	Phe	Gly	Arg	Lys	Ser	Arg	Val	Val	Asp	Leu	Asn	Leu	
				230					235					240	
Leu	Thr	Glu	Glu	Val	Arg	Leu	Tyr	Ser	Cys	Thr	Pro	Arg	Asn	Phe	
				245					250					255	
Ser	Val	Ser	Ile	Arg	Glu	Glu	Leu	Lys	Arg	Thr	Asp	Thr	Ile	Phe	
				260					265					270	
Trp	Pro	Gly	Cys	Leu	Leu	Val	Lys	Arg	Cys	Gly	Gly	Asn	Cys	Ala	
				275					280					285	
Cys	Cys	Leu	His	Asn	Cys	Asn	Glu	Cys	Gln	Cys	Val	Pro	Ser	Lys	
				290					295					300	
Val	Thr	Lys	Lys	Tyr	His	Glu	Val	Leu	Gln	Leu	Arg	Pro	Lys	Thr	
				305					310					315	
Gly	Val	Arg	Gly	Leu	His	Lys	Ser	Leu	Thr	Asp	Val	Ala	Leu	Glu	
				320					325					330	
His	His	Glu	Glu	Cys	Asp	Cys	Val	Cys	Arg	Gly	Ser	Thr	Gly	Gly	
				335					340					345	

<210> 489

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 489

acttctcagt gtccataagg g 21

<210> 490

<211> 40

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 490

gaactaaaga gaaccgatac cattttctgg ccaggttgtc 40

<210> 491

<211> 20

<212> DNA

<213> Artificial Sequence

<220>



<223> Synthetic oligonucleotide probe

<400> 491

caccacagcg tttaaccagg 20

<210> 492

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 492

acaacaggca cagttcccac 20

<210> 493

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 493

ggcggaatcc aacctgagta g 21

<210> 494

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 494

gcggctatcc tcctgtgctc 20

<210> 495

<211> 3283

<212> DNA

<213> Homo sapiens

<400> 495

cccatctcaa gctgatcttg gcacctctca tgctctgctc ttttcaacca 50

gacctctaca ttccattttg gaagaagact aaaaatggtg tttccaatgt 100

ggacactgaa gagacaaatt cttatccttt ttaacataat cctaatttcc 150

aaactccttg gggctagatg gtttcctaaa actctgccct gtgatgtcac 200

tctggatggt ccaaagaacc atgtgatcgt ggactgcaca gacaagcatt 250

tgacagaaat tcctggaggt attcccacga acaccacgaa cctcaccctc 300

accattaacc acataccaga catctcccca gcgtcctttc acagactgga 350



ccaatctggta	gagatcgatt	tcagatgcaa	ctgtgtacct	attccactgg	400
gggtcaaaaa	caacatgtgc	atcaagaggc	tgcagattaa	acccagaagc	450
tttagtggac	tcacttattt	aaaatccctt	tacctggatg	gaaaccagct	500
actagagata	ccgcagggcc	tcccgcctag	cttacagctt	ctcagccttg	550
aggccaacaa	catcttttcc	atcagaaaag	agaatctaac	agaactggcc	600
aacatagaaa	tactctacct	gggccaacaa	tggtattatc	gaaatccttg	650
ttatgtttca	tattcaatag	agaaagatgc	cttcctaaac	ttgacaaagt	700
taaaagtgct	ctccctgaaa	gataacaatg	tcacagccgt	ccctactgtt	750
ttgccatcta	ctttaacaga	actatatctc	tacaacaaca	tgattgcaaa	800
aatccaagaa	gatgatttta	ataacctcaa	ccaattacaa	attcttgacc	850
taagtggaaa	ttgccctcgt	tggtataatg	ccccatttcc	ttgtgcgccg	900
tgtaaaaata	attctccctt	acagatccct	gtaaatgctt	ttgatgcgct	950
gacagaatta	aaagttttac	gtctacacag	taactctctt	cagcatgtgc	1000
ccccagatg	gtttaagaac	atcaacaaac	tccaggaact	ggatctgtcc	1050
caaaacttct	tggtcaaaga	aattggggat	gctaaatttc	tgcatTTTTct	1100
ccccagcctc	atccaattgg	atctgtcttt	caattttgaa	cttcaggctc	1150
atcgtgcac	tatgaatcta	tcacaagcat	tttcttctact	gaaaagcctg	1200
aaaattctgc	ggatcagagg	atatgtcttt	aaagagttga	aaagctttta	1250
cctctcgcca	ttacataatc	ttcaaaatct	tgaagttctt	gatcttggca	1300
ctaactttat	aaaaattgct	aacctcagca	tgtttaaaca	atttaaaaga	1350
ctgaaagtca	tagatctttc	agtgaataaa	atatcacctt	caggagattc	1400
aagtgaagtt	ggcttctgct	caaatgccag	aacttctgta	gaaagttatg	1450
aaccccaggt	cctggaacaa	ttacattatt	tcagatatga	taagtatgca	1500
aggagttgca	gattcaaaaa	caaagaggct	tctttcatgt	ctgttaatga	1550
aagctgctac	aagtatgggc	agaccttgga	tctaagtaaa	aatagtatat	1600
tttttgtcaa	gtcctctgat	tttcagcatc	tttctttcct	caaatgcctg	1650
aatctgtcag	gaaatctcat	tagccaaact	cttaatggca	gtgaattcca	1700
accttttagca	gagctgagat	atttggactt	ctccaacaac	cggcttgatt	1750
tactccattc	aacagcattt	gaagagcttc	acaaactgga	agttctggat	1800







acaactgcct agtttaccaa ggagagcct ggc 3283

<210> 496

<211> 1049

<212> PRT

<213> Homo sapiens

<400> 496

Met	Val	Phe	Pro	Met	Trp	Thr	Leu	Lys	Arg	Gln	Ile	Leu	Ile	Leu	
1				5					10					15	
Phe	Asn	Ile	Ile	Leu	Ile	Ser	Lys	Leu	Leu	Gly	Ala	Arg	Trp	Phe	
				20					25					30	
Pro	Lys	Thr	Leu	Pro	Cys	Asp	Val	Thr	Leu	Asp	Val	Pro	Lys	Asn	
				35					40					45	
His	Val	Ile	Val	Asp	Cys	Thr	Asp	Lys	His	Leu	Thr	Glu	Ile	Pro	
				50					55					60	
Gly	Gly	Ile	Pro	Thr	Asn	Thr	Thr	Asn	Leu	Thr	Leu	Thr	Ile	Asn	
				65					70					75	
His	Ile	Pro	Asp	Ile	Ser	Pro	Ala	Ser	Phe	His	Arg	Leu	Asp	His	
				80					85					90	
Leu	Val	Glu	Ile	Asp	Phe	Arg	Cys	Asn	Cys	Val	Pro	Ile	Pro	Leu	
				95					100					105	
Gly	Ser	Lys	Asn	Asn	Met	Cys	Ile	Lys	Arg	Leu	Gln	Ile	Lys	Pro	
				110					115					120	
Arg	Ser	Phe	Ser	Gly	Leu	Thr	Tyr	Leu	Lys	Ser	Leu	Tyr	Leu	Asp	
				125					130					135	
Gly	Asn	Gln	Leu	Leu	Glu	Ile	Pro	Gln	Gly	Leu	Pro	Pro	Ser	Leu	
				140					145					150	
Gln	Leu	Leu	Ser	Leu	Glu	Ala	Asn	Asn	Ile	Phe	Ser	Ile	Arg	Lys	
				155					160					165	
Glu	Asn	Leu	Thr	Glu	Leu	Ala	Asn	Ile	Glu	Ile	Leu	Tyr	Leu	Gly	
				170					175					180	
Gln	Asn	Cys	Tyr	Tyr	Arg	Asn	Pro	Cys	Tyr	Val	Ser	Tyr	Ser	Ile	
				185					190					195	
Glu	Lys	Asp	Ala	Phe	Leu	Asn	Leu	Thr	Lys	Leu	Lys	Val	Leu	Ser	
				200					205					210	
Leu	Lys	Asp	Asn	Asn	Val	Thr	Ala	Val	Pro	Thr	Val	Leu	Pro	Ser	
				215					220					225	
Thr	Leu	Thr	Glu	Leu	Tyr	Leu	Tyr	Asn	Asn	Met	Ile	Ala	Lys	Ile	
				230					235					240	
Gln	Glu	Asp	Asp	Phe	Asn	Asn	Leu	Asn	Gln	Leu	Gln	Ile	Leu	Asp	
				245					250					255	



Leu	Ser	Gly	Asn	Cys 260	Pro	Arg	Cys	Tyr	Asn 265	Ala	Pro	Phe	Pro	Cys 270
Ala	Pro	Cys	Lys	Asn 275	Asn	Ser	Pro	Leu	Gln 280	Ile	Pro	Val	Asn	Ala 285
Phe	Asp	Ala	Leu	Thr 290	Glu	Leu	Lys	Val	Leu 295	Arg	Leu	His	Ser	Asn 300
Ser	Leu	Gln	His	Val 305	Pro	Pro	Arg	Trp	Phe 310	Lys	Asn	Ile	Asn	Lys 315
Leu	Gln	Glu	Leu	Asp 320	Leu	Ser	Gln	Asn	Phe 325	Leu	Ala	Lys	Glu	Ile 330
Gly	Asp	Ala	Lys	Phe 335	Leu	His	Phe	Leu	Pro 340	Ser	Leu	Ile	Gln	Leu 345
Asp	Leu	Ser	Phe	Asn 350	Phe	Glu	Leu	Gln	Val 355	Tyr	Arg	Ala	Ser	Met 360
Asn	Leu	Ser	Gln	Ala 365	Phe	Ser	Ser	Leu	Lys 370	Ser	Leu	Lys	Ile	Leu 375
Arg	Ile	Arg	Gly	Tyr 380	Val	Phe	Lys	Glu	Leu 385	Lys	Ser	Phe	Asn	Leu 390
Ser	Pro	Leu	His	Asn 395	Leu	Gln	Asn	Leu	Glu 400	Val	Leu	Asp	Leu	Gly 405
Thr	Asn	Phe	Ile	Lys 410	Ile	Ala	Asn	Leu	Ser 415	Met	Phe	Lys	Gln	Phe 420
Lys	Arg	Leu	Lys	Val 425	Ile	Asp	Leu	Ser	Val 430	Asn	Lys	Ile	Ser	Pro 435
Ser	Gly	Asp	Ser	Ser 440	Glu	Val	Gly	Phe	Cys 445	Ser	Asn	Ala	Arg	Thr 450
Ser	Val	Glu	Ser	Tyr 455	Glu	Pro	Gln	Val	Leu 460	Glu	Gln	Leu	His	Tyr 465
Phe	Arg	Tyr	Asp	Lys 470	Tyr	Ala	Arg	Ser	Cys 475	Arg	Phe	Lys	Asn	Lys 480
Glu	Ala	Ser	Phe	Met 485	Ser	Val	Asn	Glu	Ser 490	Cys	Tyr	Lys	Tyr	Gly 495
Gln	Thr	Leu	Asp	Leu 500	Ser	Lys	Asn	Ser	Ile 505	Phe	Phe	Val	Lys	Ser 510
Ser	Asp	Phe	Gln	His 515	Leu	Ser	Phe	Leu	Lys 520	Cys	Leu	Asn	Leu	Ser 525
Gly	Asn	Leu	Ile	Ser 530	Gln	Thr	Leu	Asn	Gly 535	Ser	Glu	Phe	Gln	Pro 540
Leu	Ala	Glu	Leu	Arg	Tyr	Leu	Asp	Phe	Ser	Asn	Asn	Arg	Leu	Asp



Leu Leu His Ser	Thr Ala Phe Glu Glu	Leu His Lys Leu Glu Val
545	560	570
Leu Asp Ile Ser	Ser Asn Ser His Tyr	Phe Gln Ser Glu Gly Ile
575	580	585
Thr His Met Leu	Asn Phe Thr Lys Asn	Leu Lys Val Leu Gln Lys
590	595	600
Leu Met Met Asn	Asp Asn Asp Ile Ser	Ser Ser Thr Ser Arg Thr
605	610	615
Met Glu Ser Glu	Ser Leu Arg Thr Leu	Glu Phe Arg Gly Asn His
620	625	630
Leu Asp Val Leu	Trp Arg Glu Gly Asp	Asn Arg Tyr Leu Gln Leu
635	640	645
Phe Lys Asn Leu	Leu Lys Leu Glu Glu	Leu Asp Ile Ser Lys Asn
650	655	660
Ser Leu Ser Phe	Leu Pro Ser Gly Val	Phe Asp Gly Met Pro Pro
665	670	675
Asn Leu Lys Asn	Leu Ser Leu Ala Lys	Asn Gly Leu Lys Ser Phe
680	685	690
Ser Trp Lys Lys	Leu Gln Cys Leu Lys	Asn Leu Glu Thr Leu Asp
695	700	705
Leu Ser His Asn	Gln Leu Thr Thr Val	Pro Glu Arg Leu Ser Asn
710	715	720
Cys Ser Arg Ser	Leu Lys Asn Leu Ile	Leu Lys Asn Asn Gln Ile
725	730	735
Arg Ser Leu Thr	Lys Tyr Phe Leu Gln	Asp Ala Phe Gln Leu Arg
740	745	750
Tyr Leu Asp Leu	Ser Ser Asn Lys Ile	Gln Met Ile Gln Lys Thr
755	760	765
Ser Phe Pro Glu	Asn Val Leu Asn Asn	Leu Lys Met Leu Leu Leu
770	775	780
His His Asn Arg	Phe Leu Cys Thr Cys	Asp Ala Val Trp Phe Val
785	790	795
Trp Trp Val Asn	His Thr Glu Val Thr	Ile Pro Tyr Leu Ala Thr
800	805	810
Asp Val Thr Cys	Val Gly Pro Gly Ala	His Lys Gly Gln Ser Val
815	820	825
Ile Ser Leu Asp	Leu Tyr Thr Cys Glu	Leu Asp Leu Thr Asn Leu
830	835	840



Ile	Leu	Phe	Ser	Leu	Ser	Ile	Ser	Val	Ser	Leu	Phe	Leu	Met	Val	845	850	855
Met	Met	Thr	Ala	Ser	His	Leu	Tyr	Phe	Trp	Asp	Val	Trp	Tyr	Ile	860	865	870
Tyr	His	Phe	Cys	Lys	Ala	Lys	Ile	Lys	Gly	Tyr	Gln	Arg	Leu	Ile	875	880	885
Ser	Pro	Asp	Cys	Cys	Tyr	Asp	Ala	Phe	Ile	Val	Tyr	Asp	Thr	Lys	890	895	900
Asp	Pro	Ala	Val	Thr	Glu	Trp	Val	Leu	Ala	Glu	Leu	Val	Ala	Lys	905	910	915
Leu	Glu	Asp	Pro	Arg	Glu	Lys	His	Phe	Asn	Leu	Cys	Leu	Glu	Glu	920	925	930
Arg	Asp	Trp	Leu	Pro	Gly	Gln	Pro	Val	Leu	Glu	Asn	Leu	Ser	Gln	935	940	945
Ser	Ile	Gln	Leu	Ser	Lys	Lys	Thr	Val	Phe	Val	Met	Thr	Asp	Lys	950	955	960
Tyr	Ala	Lys	Thr	Glu	Asn	Phe	Lys	Ile	Ala	Phe	Tyr	Leu	Ser	His	965	970	975
Gln	Arg	Leu	Met	Asp	Glu	Lys	Val	Asp	Val	Ile	Ile	Leu	Ile	Phe	980	985	990
Leu	Glu	Lys	Pro	Phe	Gln	Lys	Ser	Lys	Phe	Leu	Gln	Leu	Arg	Lys	995	1000	1005
Arg	Leu	Cys	Gly	Ser	Ser	Val	Leu	Glu	Trp	Pro	Thr	Asn	Pro	Gln	1010	1015	1020
Ala	His	Pro	Tyr	Phe	Trp	Gln	Cys	Leu	Lys	Asn	Ala	Leu	Ala	Thr	1025	1030	1035
Asp	Asn	His	Val	Ala	Tyr	Ser	Gln	Val	Phe	Lys	Glu	Thr	Val		1040	1045	

<210> 497  
 <211> 4199  
 <212> DNA  
 <213> Homo sapiens

<400> 497  
 gggtagcatt ctgcgctgct gcaagttacg gaatgaaaa ttagaacaac 50  
 agaaacatgg aaaacatgtt ccttcagtcg tcaatgctga cctgcatttt 100  
 cctgctaata tctggttcct gtgagttatg cgccgaagaa aatttttcta 150  
 gaagctatcc ttgtgatgag aaaaagcaaa atgactcagt tattgcagag 200  
 tgcagcaatc gtcgactaca ggaagttccc caaacggtgg gcaaatatgt 250



gacagaacta	gacctgtctg	ataatttcat	cacacacata	acgaatgaat	300
catttcaagg	gctgcaaaat	ctcactaaaa	taaatctaaa	ccacaacccc	350
aatgtacagc	accagaacgg	aaatcccggg	atacaatcaa	atggcttgaa	400
tatcacagac	ggggcattcc	tcaacctaaa	aaacctaagg	gagttactgc	450
ttgaagacaa	ccagttaccc	caaataccct	ctggtttgcc	agagtctttg	500
acagaactta	gtctaattca	aaacaatata	tacaacataa	ctaaagaggg	550
catttcaaga	cttataaaact	tgaaaaatct	ctatttggcc	tggaactgct	600
attttaacaa	agtttgcgag	aaaactaaca	tagaagatgg	agtatttgaa	650
acgctgacaa	atttggagtt	gctatcacta	tctttcaatt	ctctttcaca	700
cgtgccaccc	aaactgccaa	gctccctacg	caaacttttt	ctgagcaaca	750
cccagatcaa	atacattagt	gaagaagatt	tcaagggatt	gataaattta	800
acattactag	atttaagcgg	gaactgtccg	aggtgcttca	atgccccatt	850
tccatgcgtg	ccttgtgatg	gtgggtgcttc	aattaatata	gatcgttttg	900
cttttcaaaa	cttgacccaa	cttcgatacc	taaacctctc	tagcacttcc	950
ctcaggaaga	ttaatgctgc	ctggtttaaa	aatatgcctc	atctgaaggt	1000
gctggatctt	gaattcaact	atttagtggg	agaaatagtc	tctggggcat	1050
ttttaacgat	gctgccccgc	ttagaaatac	ttgacttgtc	ttttaactat	1100
ataaagggga	gttatccaca	gcatattaat	atttccagaa	acttctctaa	1150
acttttgtct	ctacgggcat	tgcatttaag	aggttatgtg	ttccaggaac	1200
tcagagaaga	tgatttccag	cccctgatgc	agcttccaaa	cttatcgact	1250
atcaacttgg	gtattaattt	tattaagcaa	atcgatttca	aactttttcca	1300
aaatttctcc	aatctggaaa	ttatttactt	gtcagaaaac	agaatatcac	1350
cgttggtaaa	agatacccgg	cagagttatg	caaatagttc	ctcttttcaa	1400
cgtcatatcc	ggaaacgacg	ctcaacagat	tttgagtttg	accacatttc	1450
gaacttttat	catttcaccc	gtcctttaat	aaagccacaa	tgtgctgctt	1500
atggaaaagc	cttagattta	agcctcaaca	gtattttctt	cattggggcca	1550
aaccaatttg	aaaatcttcc	tgacattgcc	tgtttaaatc	tgtctgcaaa	1600
tagcaatgct	caagtgttaa	gtggaactga	attttcagcc	attcctcatg	1650
tcaaataattt	ggatttgaca	aacaatagac	tagactttga	taatgctaqt	1700



gctcttactg aattgtccga cttggaagtt ctagatctca gctataattc 1750  
 acactatttc agaatagcag gcgtaacaca tcatctagaa tttattcaaa 1800  
 atttcacaaa tctaaaagtt ttaaacttga gccacaacaa catttatact 1850  
 ttaacagata agtataacct ggaaagcaag tccctggtag aattagtttt 1900  
 cagtggcaat cgccttgaca ttttgtggaa tgatgatgac aacaggtata 1950  
 tctccatttt caaaggtctc aagaatctga cacgtctgga tttatccott 2000  
 aataggctga agcacatccc aaatgaagca ttccttaatt tgccagcgag 2050  
 tctcactgaa ctacatataa atgataatat gttaaagttt ttttaactgga 2100  
 cattactcca gcagtttcct cgtctcgagt tgcttgactt acgtggaaac 2150  
 aaactactct ttttaactga tagcctatct gactttacat ottoccttcg 2200  
 gacactgctg ctgagtcata acaggatttc ccacctaccc tctggctttc 2250  
 tttctgaagt cagtagtctg aagcacctcg atttaagttc caatctgcta 2300  
 aaaacaatca acaaatccgc acttgaaact aagaccacca ccaaattatc 2350  
 tatgttgga ctacacgga accccttga atgcacctgt gacattggag 2400  
 atttccgaag atggatggat gaacatctga atgtcaaaat toccagactg 2450  
 gtagatgtca tttgtgccag tcctggggat caaagaggga agagtattgt 2500  
 gagtctggag ctaacaactt gtgtttcaga tgtcactgca gtgatattat 2550  
 ttttcttcac gttctttatc accaccatgg ttatgttggc tgccctggct 2600  
 caccatttgt tttactggga tgtttggttt atatataatg tgtgttttagc 2650  
 taaggtaaaa ggctacaggt ctctttccac atcccaaact ttctatgatg 2700  
 cttacatttc ttatgacacc aaagatgcct ctgttactga ctgggtgata 2750  
 aatgagctgc gctaccacct tgaagagagc cgagacaaaa acgtttctct 2800  
 ttgtctagag gagagggatt gggacccggg attggccatc atcgacaacc 2850  
 tcatgcagag catcaaccaa agcaagaaaa cagtatttgt ttttaacaaa 2900  
 aaatatgcaa aaagctggaa ctttaaaaca gctttttact tggctttgca 2950  
 gaggctaag gatgagaaca tggatgtgat tatatttatc ctgctggagc 3000  
 cagtgttaca gcattctcag tatttgaggc tacggcagcg gatctgtaag 3050  
 agtccatcc tccagtggcc tgacaacccg aaggcagaag gcttgttttg 3100  
 gcaaactctg agaaatgtgg tottgactga aaatgattca cggataaca 3150











Phe	Asn	Tyr	Ile	Lys 350	Gly	Ser	Tyr	Pro	Gln 355	His	Ile	Asn	Ile	Ser 360
Arg	Asn	Phe	Ser	Lys 365	Leu	Leu	Ser	Leu	Arg 370	Ala	Leu	His	Leu	Arg 375
Gly	Tyr	Val	Phe	Gln 380	Glu	Leu	Arg	Glu	Asp 385	Asp	Phe	Gln	Pro	Leu 390
Met	Gln	Leu	Pro	Asn 395	Leu	Ser	Thr	Ile	Asn 400	Leu	Gly	Ile	Asn	Phe 405
Ile	Lys	Gln	Ile	Asp 410	Phe	Lys	Leu	Phe	Gln 415	Asn	Phe	Ser	Asn	Leu 420
Glu	Ile	Ile	Tyr	Leu 425	Ser	Glu	Asn	Arg	Ile 430	Ser	Pro	Leu	Val	Lys 435
Asp	Thr	Arg	Gln	Ser 440	Tyr	Ala	Asn	Ser	Ser 445	Ser	Phe	Gln	Arg	His 450
Ile	Arg	Lys	Arg	Arg 455	Ser	Thr	Asp	Phe	Glu 460	Phe	Asp	Pro	His	Ser 465
Asn	Phe	Tyr	His	Phe 470	Thr	Arg	Pro	Leu	Ile 475	Lys	Pro	Gln	Cys	Ala 480
Ala	Tyr	Gly	Lys	Ala 485	Leu	Asp	Leu	Ser	Leu 490	Asn	Ser	Ile	Phe	Phe 495
Ile	Gly	Pro	Asn	Gln 500	Phe	Glu	Asn	Leu	Pro 505	Asp	Ile	Ala	Cys	Leu 510
Asn	Leu	Ser	Ala	Asn 515	Ser	Asn	Ala	Gln	Val 520	Leu	Ser	Gly	Thr	Glu 525
Phe	Ser	Ala	Ile	Pro 530	His	Val	Lys	Tyr	Leu 535	Asp	Leu	Thr	Asn	Asn 540
Arg	Leu	Asp	Phe	Asp 545	Asn	Ala	Ser	Ala	Leu 550	Thr	Glu	Leu	Ser	Asp 555
Leu	Glu	Val	Leu	Asp 560	Leu	Ser	Tyr	Asn	Ser 565	His	Tyr	Phe	Arg	Ile 570
Ala	Gly	Val	Thr	His 575	His	Leu	Glu	Phe	Ile 580	Gln	Asn	Phe	Thr	Asn 585
Leu	Lys	Val	Leu	Asn 590	Leu	Ser	His	Asn	Asn 595	Ile	Tyr	Thr	Leu	Thr 600
Asp	Lys	Tyr	Asn	Leu 605	Glu	Ser	Lys	Ser	Leu 610	Val	Glu	Leu	Val	Phe 615
Ser	Gly	Asn	Arg	Leu 620	Asp	Ile	Leu	Trp	Asn 625	Asp	Asp	Asp	Asn	Arg 630
Tyr	Ile	Ser	Ile	Phe	Lys	Gly	Leu	Lys	Asn	Leu	Thr	Arg	Leu	Asp







Asn	Leu	Met	Gln	Ser	Ile	Asn	Gln	Ser	Lys	Lys	Thr	Val	Phe	Val
									935					945
Leu	Thr	Lys	Lys	Tyr	Ala	Lys	Ser	Trp	Asn	Phe	Lys	Thr	Ala	Phe
									950					960
Tyr	Leu	Ala	Leu	Gln	Arg	Leu	Met	Asp	Glu	Asn	Met	Asp	Val	Ile
									965					975
Ile	Phe	Ile	Leu	Leu	Glu	Pro	Val	Leu	Gln	His	Ser	Gln	Tyr	Leu
									980					990
Arg	Leu	Arg	Gln	Arg	Ile	Cys	Lys	Ser	Ser	Ile	Leu	Gln	Trp	Pro
									995					1005
Asp	Asn	Pro	Lys	Ala	Glu	Gly	Leu	Phe	Trp	Gln	Thr	Leu	Arg	Asn
									1010					1020
Val	Val	Leu	Thr	Glu	Asn	Asp	Ser	Arg	Tyr	Asn	Asn	Met	Tyr	Val
									1025					1035
Asp	Ser	Ile	Lys	Gln	Tyr									
									1040					

<210> 499  
 <211> 20  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 499  
 taaagaccca gctgtgaccg 20

<210> 500  
 <211> 20  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 500  
 atccatgagc ctctgatggg 20

<210> 501  
 <211> 45  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 501  
 atttatgtct cgaggaaagg gactgggttac cagggcagcc agttc 45

<210> 502



<211> 21  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 502  
gccgagacaa aaacgttctc c 21

<210> 503  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 503  
catccatggt ctcattccatt agcc 24

<210> 504  
<211> 46  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 504  
tcgacaacct catgcagagc atcaaccaa gcaagaaaac agtatt 46

<210> 505  
<211> 1738  
<212> DNA  
<213> Homo sapiens

<400> 505  
ccagggtccaa ctgcacctcg gttctatcga ttgaattccc cggggatcct 50  
ctagagatcc ctgcacctcg acccagcgt ccgccaagct ggccctgcac 100  
ggctgcaagg gaggtcctg tggacaggcc aggcaggtgg gcctcaggag 150  
gtgcctccag gcggccagt ggctgaggc ccagcaagg gctaggggcc 200  
atctccagtc ccaggacaca gcagcggcca ccatggccac gcctgggctc 250  
cagcagcatc agcagcccc aggaccggg aggcacaggt ggccccacc 300  
accgggagga gcagctcctg ccctgtccg ggggatgact gattctcctc 350  
cgccaggcca ccagaggag aaggccacc cgcctggagg cacaggccat 400  
gaggggctct caggaggtgc tgctgatgtg gcttctggtg ttggcagtgg 450  
ggggcacaga gcacgcctac cggcccgcc gtaggggtgtg tgctgtccg 500







Ala Val Gly Gly Thr Glu His Ala Tyr Arg Pro Gly Arg Arg Val  
20 25 30

Cys Ala Val Arg Ala His Gly Asp Pro Val Ser Glu Ser Phe Val  
35 40 45

Gln Arg Val Tyr Gln Pro Phe Leu Thr Thr Cys Asp Gly His Arg  
50 55 60

Ala Cys Ser Thr Tyr Arg Thr Ile Tyr Arg Thr Ala Tyr Arg Arg  
65 70 75

Ser Pro Gly Leu Ala Pro Ala Arg Pro Arg Tyr Ala Cys Cys Pro  
80 85 90

Gly Trp Lys Arg Thr Ser Gly Leu Pro Gly Ala Cys Gly Ala Ala  
95 100 105

Ile Cys Gln Pro Pro Cys Arg Asn Gly Gly Ser Cys Val Gln Pro  
110 115 120

Gly Arg Cys Arg Cys Pro Ala Gly Trp Arg Gly Asp Thr Cys Gln  
125 130 135

Ser Asp Val Asp Glu Cys Ser Ala Arg Arg Gly Gly Cys Pro Gln  
140 145 150

Arg Cys Ile Asn Thr Ala Gly Ser Tyr Trp Cys Gln Cys Trp Glu  
155 160 165

Gly His Ser Leu Ser Ala Asp Gly Thr Leu Cys Val Pro Lys Gly  
170 175 180

Gly Pro Pro Arg Val Ala Pro Asn Pro Thr Gly Val Asp Ser Ala  
185 190 195

Met Lys Glu Glu Val Gln Arg Leu Gln Ser Arg Val Asp Leu Leu  
200 205 210

Glu Glu Lys Leu Gln Leu Val Leu Ala Pro Leu His Ser Leu Ala  
215 220 225

Ser Gln Ala Leu Glu His Gly Leu Pro Asp Pro Gly Ser Leu Leu  
230 235 240

Val His Ser Phe Gln Gln Leu Gly Arg Ile Asp Ser Leu Ser Glu  
245 250 255

Gln Ile Ser Phe Leu Glu Glu Gln Leu Gly Ser Cys Ser Cys Lys  
260 265 270

Lys Asp Ser

<210> 507  
<211> 1700  
<212> DNA  
<213> Homo sapiens



<400> 507  
gccaggcagg tgggcctcag gaggtgcctc caggcggcca gtgggcctga 50  
ggccccagca agggctaggg tccatctcca gtcccaggac acagcagcgg 100  
ccaccatggc cacgcctggg ctccagcagc atcagagcag cccctgtggt 150  
tggcagcaaa gttcagcttg gctgggcccc ctgtgagggg cttcgcgcta 200  
cgccctgcgg tgtcccagg gctgaggtct cctcatcttc tccctagcag 250  
tggatgagca acccaacggg ggcccgggga ggggaactgg ccccgaggga 300  
gaggaacccc aaagccacat ctgtagccag gatgagcagt gtgaatccag 350  
gcagcccccga ggaccgggga ggcacagggtg gccccacca cccggaggag 400  
cagctcctgc ccctgtccgg gggatgactg attctcctcc gccaggccac 450  
ccagaggaga aggccacccc gcctggaggc acaggccatg aggggctctc 500  
aggaggtgct gctgatgtgg cttctggtgt tggcagtggg cggcacagag 550  
cacgcctacc ggcccggccg tagggtgtgt gctgtccggg ctcacgggga 600  
ccctgtctcc gagtgcgttcg tgcagcgtgt gtaccagccc ttctcacca 650  
cctgcgcagg gcaccgggcc tgcagcacct accgaaccat ctataggacc 700  
gcctaccgcc gcagccctgg gctggccctt gccaggcctc gctacgcgtg 750  
ctgccccggc tggaagagga ccagcgggct tcttggggcc tgtggagcag 800  
caatatgccg gccgccatgc cggaacggag ggagctgtgt ccagcctggc 850  
cgctgccgct gccctgcagg atggcggggt gacacttgcc agtcagatgt 900  
ggatgaatgc agtgctagga ggggcggctg tccccagcgc tgcatcaaca 950  
ccgccggcag ttactggtgc cagtgttggg aggggcacag cctgtctgca 1000  
gacggtacac tctgtgtgcc caagggaggg cccccaggg tggcccccaa 1050  
cccagacagga gtggacagtg caatgaagga agaagtgcag aggctgcagt 1100  
ccagggtgga cctgctggag gagaagctgc agctggtgct ggccccactg 1150  
cacagcctgg cctcgcaggc actggagcat gggctcccgg accccggcag 1200  
cctcctggtg cactccttcc agcagctcgg ccgcctogac tccctgagcg 1250  
agcagatttc cttcctggag gacagctgg ggtcctgctc ctgcaagaaa 1300  
gactcgtgac tgcccagcgc tccaggctgg actgagcccc tcacgccgcc 1350  
ctgcagcccc catgcccctg cccaacatgc tgggggtcca gaagccacct 1400  
cggggtgact gagcgggaag ccaggcaggg ccttcctcct cttcctcctc 1450



cccttcctcg ggaggctccc cagaccctgg catgggatgg gctgggatct 1500  
tctctgtgaa tccacccttg gctaccccca ccctgggtac cccaacggca 1550  
tcccaaggcc aggtggaccc tcagctgagg gaaggtacga gctccctgct 1600  
ggagcctggg acccatggca caggccaggc agcccgagg ctgggtgggg 1650  
cctcagtggg ggctgctgcc tgacccccag cacaataaaa atgaaacgtg 1700

<210> 508  
<211> 273  
<212> PRT  
<213> Homo sapiens

<400> 508  
Met Arg Gly Ser Gln Glu Val Leu Leu Met Trp Leu Leu Val Leu  
1 5 10 15  
Ala Val Gly Gly Thr Glu His Ala Tyr Arg Pro Gly Arg Arg Val  
20 25 30  
Cys Ala Val Arg Ala His Gly Asp Pro Val Ser Glu Ser Phe Val  
35 40 45  
Gln Arg Val Tyr Gln Pro Phe Leu Thr Thr Cys Asp Gly His Arg  
50 55 60  
Ala Cys Ser Thr Tyr Arg Thr Ile Tyr Arg Thr Ala Tyr Arg Arg  
65 70 75  
Ser Pro Gly Leu Ala Pro Ala Arg Pro Arg Tyr Ala Cys Cys Pro  
80 85 90  
Gly Trp Lys Arg Thr Ser Gly Leu Pro Gly Ala Cys Gly Ala Ala  
95 100 105  
Ile Cys Gln Pro Pro Cys Arg Asn Gly Gly Ser Cys Val Gln Pro  
110 115 120  
Gly Arg Cys Arg Cys Pro Ala Gly Trp Arg Gly Asp Thr Cys Gln  
125 130 135  
Ser Asp Val Asp Glu Cys Ser Ala Arg Arg Gly Gly Cys Pro Gln  
140 145 150  
Arg Cys Ile Asn Thr Ala Gly Ser Tyr Trp Cys Gln Cys Trp Glu  
155 160 165  
Gly His Ser Leu Ser Ala Asp Gly Thr Leu Cys Val Pro Lys Gly  
170 175 180  
Gly Pro Pro Arg Val Ala Pro Asn Pro Thr Gly Val Asp Ser Ala  
185 190 195  
Met Lys Glu Glu Val Gln Arg Leu Gln Ser Arg Val Asp Leu Leu  
200 205 210



Glu	Glu	Lys	Leu	Gln	Leu	Val	Leu	Ala	Pro	Leu	His	Ser	Leu	Ala
				215					220					225
Ser	Gln	Ala	Leu	Glu	His	Gly	Leu	Pro	Asp	Pro	Gly	Ser	Leu	Leu
				230					235					240
Val	His	Ser	Phe	Gln	Gln	Leu	Gly	Arg	Ile	Asp	Ser	Leu	Ser	Glu
				245					250					255
Gln	Ile	Ser	Phe	Leu	Glu	Glu	Gln	Leu	Gly	Ser	Cys	Ser	Cys	Lys
				260					265					270

Lys Asp Ser

<210> 509  
 <211> 1538  
 <212> DNA  
 <213> Homo sapiens

<400> 509  
 cccacgcgtc cgaagctggc cctgcacggc tgcaagggag gctcctgtgg 50  
 acaggccagg caggtgggcc tcaggaggtg cctccaggcg gccagtgggc 100  
 ctgaggcccc agcaagggct aggttccatc tccagtccca ggacacagca 150  
 gcggccacca tggccacgcc tgggctccag cagcatcagc agccccagg 200  
 accggggagg cacaggtggc cccaccacc cggaggagca gctcctgccc 250  
 ctgtccgggg gatgactgat tctcctccgc caggccacc agaggagaag 300  
 gccacccgc ctggaggcac aggccatgag gggctctcag gaggtgctgc 350  
 tgatgtggct tctggtgttg gcagtgggcg gcacagagca cgcctaccgg 400  
 cccggccgta ggggtgtgtc tgtccgggct cacggggacc ctgtctccga 450  
 gtcgttcgtg cagcgtgtgt accagccctt cctcaccacc tgcgacgggc 500  
 accgggcctg cagcacctac cgaaccatct ataggaccgc ctaccgccgc 550  
 agccctgggc tggccctgc caggcctcgc tacgcgtgct gcccggctg 600  
 gaagaggacc agcgggcttc ctggggcctg tggagcagca atatgccagc 650  
 cgccatgccg gaacggaggg agctgtgtcc agcctggccg ctgccgctgc 700  
 cctgcaggat ggcgggggtga cacttgccag tcagatgtgg atgaatgcag 750  
 tgctaggagg ggcggctgtc cccagcgtg cgtcaacacc gccggcagtt 800  
 actggtgcca gtgttgggag gggcacagcc tgtctgcaga cggtacactc 850  
 tgtgtgcca agggagggcc cccaggggtg gcccacaacc cgacaggagt 900  
 ggacagtgca atgaaggaag aagtgcagag gctgcagtcc aggggtggacc 950



tgctggagga gaagctgcag ctggtgctgg cccactgca cagcctggcc 1000  
 tcgcaggcac tggagcatgg gctcccgac cccggcagcc tcctggtgca 1050  
 ctcttccag cagctcggcc gcatcgactc cctgagcgag cagatttct 1100  
 tcctggagga gcagctgggg tcctgctcct gcaagaaaga ctctgactg 1150  
 cccagcgccc caggctggac tgagcccctc acgccgccct gcagcccca 1200  
 tgcccctgcc caacatgctg ggggtccaga agccacctcg gggtgactga 1250  
 gcggaaggcc aggcagggcc ttctctctct tcctctctcc cttctctggg 1300  
 aggtcccca gacctggca tgggatgggc tgggatcttc tctgtgaatc 1350  
 caccctggc taccaccacc ctggctaccc caacggcatc ccaaggccag 1400  
 gtgggcccctc agctgagga aggtacgagc tccctgctgg agcctgggac 1450  
 ccatggcaca ggccaggcag cccggaggct ggggtggggcc tcagtggggg 1500  
 ctgctgcctg acccccagca caataaaaat gaaacgtg 1538

<210> 510

<211> 273

<212> PRT

<213> Homo sapiens

<400> 510

Met Arg Gly Ser Gln Glu Val Leu Leu Met Trp Leu Leu Val Leu  
 1 5 10 15

Ala Val Gly Gly Thr Glu His Ala Tyr Arg Pro Gly Arg Arg Val  
 20 25 30

Cys Ala Val Arg Ala His Gly Asp Pro Val Ser Glu Ser Phe Val  
 35 40 45

Gln Arg Val Tyr Gln Pro Phe Leu Thr Thr Cys Asp Gly His Arg  
 50 55 60

Ala Cys Ser Thr Tyr Arg Thr Ile Tyr Arg Thr Ala Tyr Arg Arg  
 65 70 75

Ser Pro Gly Leu Ala Pro Ala Arg Pro Arg Tyr Ala Cys Cys Pro  
 80 85 90

Gly Trp Lys Arg Thr Ser Gly Leu Pro Gly Ala Cys Gly Ala Ala  
 95 100 105

Ile Cys Gln Pro Pro Cys Arg Asn Gly Gly Ser Cys Val Gln Pro  
 110 115 120

Gly Arg Cys Arg Cys Pro Ala Gly Trp Arg Gly Asp Thr Cys Gln  
 125 130 135

Ser Asp Val Asp Glu Cys Ser Ala Arg Arg Gly Gly Cys Pro Gln



140	145	150
Arg Cys Val Asn Thr Ala Gly Ser Tyr	Trp Cys Gln Cys Trp Glu	
155	160	165
Gly His Ser Leu Ser Ala Asp Gly Thr	Leu Cys Val Pro Lys Gly	
170	175	180
Gly Pro Pro Arg Val Ala Pro Asn Pro	Thr Gly Val Asp Ser Ala	
185	190	195
Met Lys Glu Glu Val Gln Arg Leu Gln	Ser Arg Val Asp Leu Leu	
200	205	210
Glu Glu Lys Leu Gln Leu Val Leu Ala	Pro Leu His Ser Leu Ala	
215	220	225
Ser Gln Ala Leu Glu His Gly Leu Pro	Asp Pro Gly Ser Leu Leu	
230	235	240
Val His Ser Phe Gln Gln Leu Gly Arg	Ile Asp Ser Leu Ser Glu	
245	250	255
Gln Ile Ser Phe Leu Glu Glu Gln Leu	Gly Ser Cys Ser Cys Lys	
260	265	270
Lys Asp Ser		

<210> 511

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 511

tggagcagca atatgccagc c 21

<210> 512

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 512

ttttccactc ctgtcgggtt gg 22

<210> 513

<211> 46

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe



<400> 513  
ggtgacactt gccagtcaga tgtggatgaa tgcagtgcta ggaggg 46

<210> 514  
<211> 2690  
<212> DNA  
<213> Homo sapiens

<220>  
<221> unsure  
<222> 2039-2065  
<223> unknown base

<400> 514  
ggttgccaca gctggtttag ggccccgacc actggggccc cttgtcagga 50  
ggagacagcc tccccggcccg gggaggacaa gtcgctgcca cctttggctg 100  
ccgacgtgat tccctgggac ggtccgtttc ctgccgtcag ctgccggccg 150  
agttgggtct ccgtgtttca ggccggctcc ccttccctgg tctcccttct 200  
cccgtgggc cggtttatcg ggaggagatt gtcttccagg gctagcaatt 250  
ggacttttga tgatgtttga ccagcggca ggaatagcag gcaacgtgat 300  
ttcaaagctg ggctcagcct ctgtttcttc tctcgtgtaa tcgcaaaacc 350  
cattttggag caggaattcc aatcatgtct gtgatgggtg tgagaaagaa 400  
ggtgacacgg aaatgggaga aactcccagg caggaacacc ttttgctgtg 450  
atggccgcgt catgatggcc cggcaaaagg gcattttcta cctgaccctt 500  
ttcctcatcc tggggacatg tacactcttc ttgcctttg agtgccgcta 550  
cctggctgtt cagctgtctc ctgccatccc tgtatttgct gccatgctct 600  
tccttttctc catggctaca ctgttgagga ccagcttcag tgaccctgga 650  
gtgattcctc gggcgctacc agatgaagca gctttcatag aaatggagat 700  
agaagctacc aatggtgcgg tgccccaggg ccagcgacca ccgcctcgta 750  
tcaagaattt ccagataaac aaccagattg tgaaactgaa atactgttac 800  
acatgcaaga tcttcgggcc tccccgggcc tccattgca gcattctgtga 850  
caactgtgtg gagcgcttcg accatcactg cccctgggtg gggaattgtg 900  
ttggaaagag gaactaccgc tactttacc tcttcacctt ttctctctcc 950  
ctcctcacia tctatgtctt cgccttcaac atcgtctatg tggccctcaa 1000  
atctttgaaa attggcttct tggagacatt gaaagaaact cctggaactg 1050  
ttctagaagt cctcatttgc ttctttacac tctggtccgt cgtgggactg 1100



actggatttc	atactttcct	cgtggctctc	aaccagacaa	ccaatgaaga	1150
catcaaagga	tcatggacag	ggaagaatcg	cgtccagaat	ccctacagcc	1200
atggcaatat	tgtgaagaac	tgtgtgtaag	tgtgtgtgtg	ccccttgccc	1250
cccagtgtgc	tggatcgaag	gggtattttg	ccactggagg	aaagtggaag	1300
tgcacctccc	agtactcaag	agaccagtag	cagcctcttg	ccacagagcc	1350
cagccccac	agaacacctg	aactcaaatg	agatgccgga	ggacagcagc	1400
actcccgaag	agatgccacc	tccagagccc	ccagagccac	cacaggaggc	1450
agctgaagct	gagaagtagc	ctatctatgg	aagagacttt	tgtttgtgtt	1500
taattagggc	tatgagagat	ttcaggtgag	aagttaaacc	tgagacagag	1550
agcaagtaag	ctgtcccttt	taactgtttt	tctttggtct	ttagtcaccc	1600
agttgcacac	tggcattttc	ttgctgcaag	cttttttaaa	tttctgaact	1650
caaggcagtg	gcagaagatg	tcagtcacct	ctgataactg	gaaaaatggg	1700
tctcttgggc	cctggcactg	gttctccatg	gcctcagcca	caggggtcccc	1750
ttggaccccc	tctcttcct	ccagatccca	gccctcctgc	ttggggtcac	1800
tggtctcatt	ctggggctaa	aagtttttga	gactggctca	aatcctccca	1850
agctgctgca	cgtgctgagt	ccagaggcag	tcacagagac	ctctggccag	1900
gggatocctaa	ctggggttct	ggggtcttca	ggactgaaga	ggagggagag	1950
tggggtcaga	agattctcct	ggccaccaag	tgccagcatt	gccacaaaat	2000
ccttttagga	atgggacagg	taccttcac	ttgttgtann	nnnnnnnnnn	2050
nnnnnnnnnn	nnnnnttggt	tttcttttg	actcctgctc	ccattaggag	2100
caggaatggc	agtaataaaa	gtctgcactt	tggtcatttc	ttttcctcag	2150
aggaagcccg	agtgctcact	taaacactat	cccctcagac	tccctgtgtg	2200
aggcctgcag	aggccctgaa	tgacaaaatg	ggaaaccaag	gcacagagag	2250
gctctcctct	cctctcctct	ccccgatgt	accctcaaaa	aaaaaaaaat	2300
gctaaccagt	tcttcatta	agcctcggt	gagtgagggg	aagcccagca	2350
ctgctgcct	ctcgggtaac	tcaccctaag	gcctcggccc	acctctggct	2400
atggtaacca	cactgggggc	ttcctccaag	ccccgtcttt	ccagcacttc	2450
caccggcaga	gtccagagc	cacttcaccc	tgggggtggg	ctgtggcccc	2500
cagtcagctc	tgctcaggac	ctgctctatt	tcagggaaga	agatttatgt	2550



attatatgtg gctatatattc ctagagcacc tgtgttttcc tctttctaag 2600  
 ccagggtcct gtctggatga cttatgcggg gggggagtgt aaaccggaac 2650  
 ttttcatcta tttgaaggcg attaaactgt gtctaataca 2690

<210> 515  
 <211> 364  
 <212> PRT  
 <213> Homo sapiens

<400> 515

Met	Ser	Val	Met	Val	Val	Arg	Lys	Lys	Val	Thr	Arg	Lys	Trp	Glu	1	5	10	15
Lys	Leu	Pro	Gly	Arg	Asn	Thr	Phe	Cys	Cys	Asp	Gly	Arg	Val	Met	20	25	30	
Met	Ala	Arg	Gln	Lys	Gly	Ile	Phe	Tyr	Leu	Thr	Leu	Phe	Leu	Ile	35	40	45	
Leu	Gly	Thr	Cys	Thr	Leu	Phe	Phe	Ala	Phe	Glu	Cys	Arg	Tyr	Leu	50	55	60	
Ala	Val	Gln	Leu	Ser	Pro	Ala	Ile	Pro	Val	Phe	Ala	Ala	Met	Leu	65	70	75	
Phe	Leu	Phe	Ser	Met	Ala	Thr	Leu	Leu	Arg	Thr	Ser	Phe	Ser	Asp	80	85	90	
Pro	Gly	Val	Ile	Pro	Arg	Ala	Leu	Pro	Asp	Glu	Ala	Ala	Phe	Ile	95	100	105	
Glu	Met	Glu	Ile	Glu	Ala	Thr	Asn	Gly	Ala	Val	Pro	Gln	Gly	Gln	110	115	120	
Arg	Pro	Pro	Pro	Arg	Ile	Lys	Asn	Phe	Gln	Ile	Asn	Asn	Gln	Ile	125	130	135	
Val	Lys	Leu	Lys	Tyr	Cys	Tyr	Thr	Cys	Lys	Ile	Phe	Arg	Pro	Pro	140	145	150	
Arg	Ala	Ser	His	Cys	Ser	Ile	Cys	Asp	Asn	Cys	Val	Glu	Arg	Phe	155	160	165	
Asp	His	His	Cys	Pro	Trp	Val	Gly	Asn	Cys	Val	Gly	Lys	Arg	Asn	170	175	180	
Tyr	Arg	Tyr	Phe	Tyr	Leu	Phe	Ile	Leu	Ser	Leu	Ser	Leu	Leu	Thr	185	190	195	
Ile	Tyr	Val	Phe	Ala	Phe	Asn	Ile	Val	Tyr	Val	Ala	Leu	Lys	Ser	200	205	210	
Leu	Lys	Ile	Gly	Phe	Leu	Glu	Thr	Leu	Lys	Glu	Thr	Pro	Gly	Thr	215	220	225	
Val	Leu	Glu	Val	Leu	Ile	Cys	Phe	Phe	Thr	Leu	Trp	Ser	Val	Val				







<223> Synthetic oligonucleotide probe

<400> 517

caacgtgatt tcaaagctgg gctc 24

<210> 518

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 518

gcctcgtatc aagaatttcc 20

<210> 519

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 519

agtgggaagtc gacctccc 18

<210> 520

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 520

ctcacctgaa atctctcata gccc 24

<210> 521

<211> 50

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 521

cgcaaaaccc attttgggag caggaattcc aatcatgtct gtgatgggtgg 50

<210> 522

<211> 1679

<212> DNA

<213> Homo sapiens

<400> 522

gttgtgtcct tcagcaaaac agtggattta aatctccttg cacaagcttg 50

agagcaacac aatctatcag gaaagaaaga aagaaaaaaa ccgaacctga 100







aattcaatca gtccatagag acgaacagaa tgagaccttc cggcccaagc 1600  
 gtggcgctgc gggcactttg gtagactgtg ccaccacggc gtgtgttgtg 1650  
 aaacgtgaaa taaaaagagc aaaaaaaaaa 1679

<210> 523  
 <211> 344  
 <212> PRT  
 <213> Homo sapiens

<400> 523

Met	Lys	Thr	Ile	Gln	Pro	Lys	Met	His	Asn	Ser	Ile	Ser	Trp	Ala	1	5	10	15
Ile	Phe	Thr	Gly	Leu	Ala	Ala	Leu	Cys	Leu	Phe	Gln	Gly	Val	Pro	20	25	30	
Val	Arg	Ser	Gly	Asp	Ala	Thr	Phe	Pro	Lys	Ala	Met	Asp	Asn	Val	35	40	45	
Thr	Val	Arg	Gln	Gly	Glu	Ser	Ala	Thr	Leu	Arg	Cys	Thr	Ile	Asp	50	55	60	
Asn	Arg	Val	Thr	Arg	Val	Ala	Trp	Leu	Asn	Arg	Ser	Thr	Ile	Leu	65	70	75	
Tyr	Ala	Gly	Asn	Asp	Lys	Trp	Cys	Leu	Asp	Pro	Arg	Val	Val	Leu	80	85	90	
Leu	Ser	Asn	Thr	Gln	Thr	Gln	Tyr	Ser	Ile	Glu	Ile	Gln	Asn	Val	95	100	105	
Asp	Val	Tyr	Asp	Glu	Gly	Pro	Tyr	Thr	Cys	Ser	Val	Gln	Thr	Asp	110	115	120	
Asn	His	Pro	Lys	Thr	Ser	Arg	Val	His	Leu	Ile	Val	Gln	Val	Ser	125	130	135	
Pro	Lys	Ile	Val	Glu	Ile	Ser	Ser	Asp	Ile	Ser	Ile	Asn	Glu	Gly	140	145	150	
Asn	Asn	Ile	Ser	Leu	Thr	Cys	Ile	Ala	Thr	Gly	Arg	Pro	Glu	Pro	155	160	165	
Thr	Val	Thr	Trp	Arg	His	Ile	Ser	Pro	Lys	Ala	Val	Gly	Phe	Val	170	175	180	
Ser	Glu	Asp	Glu	Tyr	Leu	Glu	Ile	Gln	Gly	Ile	Thr	Arg	Glu	Gln	185	190	195	
Ser	Gly	Asp	Tyr	Glu	Cys	Ser	Ala	Ser	Asn	Asp	Val	Ala	Ala	Pro	200	205	210	
Val	Val	Arg	Arg	Val	Lys	Val	Thr	Val	Asn	Tyr	Pro	Pro	Tyr	Ile	215	220	225	
Ser	Glu	Ala	Lys	Gly	Thr	Gly	Val	Pro	Val	Gly	Gln	Lys	Gly	Thr				



230	235	240
Leu Gln Cys Glu Ala Ser Ala Val Pro Ser Ala Glu Phe Gln Trp		
245	250	255
Tyr Lys Asp Asp Lys Arg Leu Ile Glu Gly Lys Lys Gly Val Lys		
260	265	270
Val Glu Asn Arg Pro Phe Leu Ser Lys Leu Ile Phe Phe Asn Val		
275	280	285
Ser Glu His Asp Tyr Gly Asn Tyr Thr Cys Val Ala Ser Asn Lys		
290	295	300
Leu Gly His Thr Asn Ala Ser Ile Met Leu Phe Gly Pro Gly Ala		
305	310	315
Val Ser Glu Val Ser Asn Gly Thr Ser Arg Arg Ala Gly Cys Val		
320	325	330
Trp Leu Leu Pro Leu Leu Val Leu His Leu Leu Leu Lys Phe		
335	340	

<210> 524  
 <211> 503  
 <212> DNA  
 <213> Homo sapiens  
 <400> 524  
 gaaaaaaat catgaaaacc atccagccaa aaatgcacaa ttctatctct 50  
 tgggcaatct tcacggggct ggctgctctg tgtctcttcc aaggagtgcc 100  
 cgtgcgacgc ggagatgcc ccttcccca agctatggac aacgtgacgg 150  
 tccggcaggg ggagagcgcc accctcaggt gcactattga caaccgggtc 200  
 acccggtgg cctggctaaa ccgcagcacc atcctctatg ctgggaatga 250  
 caagtgggtgc ctggatcctc gcgtggctct tctgagcaac acccaaacgc 300  
 agtacagcat cgagatccag aacgtggatg tgtatgacga gggcccttac 350  
 acctgctcgg tgcagacaga caaccaccca aagacctcta gggccacct 400  
 cattgtgcaa gtatctccca aaattgtaga gatttcttca gatattcca 450  
 ttaatgaagg gaacaatatt agcctcacct gcatagcaac tggtagacca 500  
 gag 503

<210> 525  
 <211> 2602  
 <212> DNA  
 <213> Homo sapiens

<400> 525  
 atggctgggtg acggcggggc cgggcagggg accggggccg cggcccggga 50



gcgggcccagc tgccgggagc cctgaatcac cgcctggccc gactccacca 100  
tgaacgtcgc gctgcaggag ctgggagctg gcagcaacgt gggattccag 150  
aaggggacaa gacagctgtt aggcctcacgc acgcagctgg agctggtctt 200  
agcaggtgcc tctctactgc tggctgcact gcttctgggc tgccttgtgg 250  
ccctaggggt ccagtaccac agagacccat cccacagcac ctgccttaca 300  
gaggcctgca ttcgagtggc tggaaaaatc ctggagtccc tggaccgagg 350  
ggtgagcccc tgtgaggact tttaccagtt ctctgtggg ggctggattc 400  
ggaggaaccc cctgcccgat gggcgttctc gctggaacac cttcaacagc 450  
ctctgggacc aaaaccaggc catactgaag cacctgcttg aaaacaccac 500  
cttcaactcc agcagtgaag ctgagcagaa gacacagcgc ttctacctat 550  
cttgcctaca ggtggagcgc attgaggagc tgggagccca gccactgaga 600  
gacctcattg agaagattgg tggttggaac attacggggc cctgggacca 650  
ggacaacttt atggaggtgt tgaaggcagt agcagggacc tacagggcca 700  
ccccattctt caccgtctac atcagtgccg actctaagag ttccaacagc 750  
aatgttatcc aggtggacca gtctgggctc tttctgccct ctcgggatta 800  
ctacttaaac agaactgcc aatgagaaagt gctcactgcc tatctggatt 850  
acatggagga actggggatg ctgctgggtg ggcggccac ctccacgagg 900  
gagcagatgc agcaggtgct ggagttggag atacagctgg ccaacatcac 950  
agtgccccag gaccagcggc gcgacgagga gaagatctac cacaagatga 1000  
gcatttcgga gctgcaggct ctggcgccct ccatggactg gcttgagttc 1050  
ctgtctttct tgctgtcacc attggagttg agtgactctg agcctgtggt 1100  
ggtgtatggg atggattatt tgcagcaggt gtcagagctc atcaaccgca 1150  
cggaaccaag catcctgaac aattacctga tctggaacct ggtgcaaaag 1200  
acaacctcaa gcctggaccg acgctttgag tctgcacaag agaagctgct 1250  
ggagaccctc tatggcacta agaagtctg tgtgccgagg tggcagacct 1300  
gcatctccaa cacggatgac gcccttggct ttgctttggg gtcactcttc 1350  
gtgaaggcca cgtttgaccg gcaaagcaaa gaaattgcag aggggatgat 1400  
cagcgaaatc cggaccgcat ttgaggaggc cctgggacag ctggtttgga 1450  
tggatgagaa gacccgccag gcagccaagg agaaagcaga tgccatctat 1500



gatatgattg gtttcccaga ctttatcctg gagcccaaag agctggatga 1550  
tgtttatgac gggtagcaaa tttctgaaga ttctttcttc caaaacatgt 1600  
tgaatttgta caacttctct gccaaaggta tggctgacca gctccgcaag 1650  
cctcccagcc gagaccagtg gagcatgacc cccagacag tgaatgccta 1700  
ctaccttcca actaagaatg agatogtctt cccgctggc atcctgcagg 1750  
cccccttcta tgcccgcaac caccccaagg cctgaactt cgggtggcatc 1800  
ggtgtggtca tgggccatga gttgacgcat gcctttgatg accaagggcg 1850  
cgagtatgac aaagaaggga acctgcggcc ctggtggcag aatgagtccc 1900  
tggcagcctt ccggaaccac acggcctgca tggaggaaca gtacaatcaa 1950  
taccaggtca atggggagag gctcaacggc cgccagacgc tgggggagaa 2000  
cattactgac aacggggggc tgaaggctgc ctacaatgct taaaagcat 2050  
ggctgagaaa gcatggggag gagcagcaac tgccagccgt ggggctcacc 2100  
aaccaccagc tcttcttcgt gggatttgcc cagggtgtgtt gctcgggtccg 2150  
cacaccagag agctctcacg aggggctggt gaccgacccc cacagccctg 2200  
cccgttccg cgtgctgggc actctctcca actcccgta cttcctgcgg 2250  
cacttcgggt gccctgtcgg ctcccccatg aaccagggc agctgtgtga 2300  
ggtgtggtag acctggatca ggggagaaat ggccagctgt caccagacct 2350  
ggggcagctc tcctgacaaa gctgtttgct cttgggttg gaggaagcaa 2400  
atgcaagctg ggctgggtct agtccctccc cccacaggt gacatgagta 2450  
cagaccctcc tcaatcacca cattgtgcct ctgctttgg ggtgcccctg 2500  
cctccagcag agccccacc attcactgtg acatctttcc gtgtcaccct 2550  
gcctggaaga ggtctgggtg gggaggccag ttcccatagg aaggagtctg 2600  
cc 2602

<210> 526

<211> 736

<212> PRT

<213> Homo sapiens

<400> 526

Met	Asn	Val	Ala	Leu	Gln	Glu	Leu	Gly	Ala	Gly	Ser	Asn	Val	Gly
1				5				10						15

Phe	Gln	Lys	Gly	Thr	Arg	Gln	Leu	Leu	Gly	Ser	Arg	Thr	Gln	Leu
			20						25					30



Glu	Leu	Val	Leu	Ala	Gly	Ala	Ser	Leu	Leu	Leu	Ala	Ala	Leu	Leu	35	40	45
Leu	Gly	Cys	Leu	Val	Ala	Leu	Gly	Val	Gln	Tyr	His	Arg	Asp	Pro	50	55	60
Ser	His	Ser	Thr	Cys	Leu	Thr	Glu	Ala	Cys	Ile	Arg	Val	Ala	Gly	65	70	75
Lys	Ile	Leu	Glu	Ser	Leu	Asp	Arg	Gly	Val	Ser	Pro	Cys	Glu	Asp	80	85	90
Phe	Tyr	Gln	Phe	Ser	Cys	Gly	Gly	Trp	Ile	Arg	Arg	Asn	Pro	Leu	95	100	105
Pro	Asp	Gly	Arg	Ser	Arg	Trp	Asn	Thr	Phe	Asn	Ser	Leu	Trp	Asp	110	115	120
Gln	Asn	Gln	Ala	Ile	Leu	Lys	His	Leu	Leu	Glu	Asn	Thr	Thr	Phe	125	130	135
Asn	Ser	Ser	Ser	Glu	Ala	Glu	Gln	Lys	Thr	Gln	Arg	Phe	Tyr	Leu	140	145	150
Ser	Cys	Leu	Gln	Val	Glu	Arg	Ile	Glu	Glu	Leu	Gly	Ala	Gln	Pro	155	160	165
Leu	Arg	Asp	Leu	Ile	Glu	Lys	Ile	Gly	Gly	Trp	Asn	Ile	Thr	Gly	170	175	180
Pro	Trp	Asp	Gln	Asp	Asn	Phe	Met	Glu	Val	Leu	Lys	Ala	Val	Ala	185	190	195
Gly	Thr	Tyr	Arg	Ala	Thr	Pro	Phe	Phe	Thr	Val	Tyr	Ile	Ser	Ala	200	205	210
Asp	Ser	Lys	Ser	Ser	Asn	Ser	Asn	Val	Ile	Gln	Val	Asp	Gln	Ser	215	220	225
Gly	Leu	Phe	Leu	Pro	Ser	Arg	Asp	Tyr	Tyr	Leu	Asn	Arg	Thr	Ala	230	235	240
Asn	Glu	Lys	Val	Leu	Thr	Ala	Tyr	Leu	Asp	Tyr	Met	Glu	Glu	Leu	245	250	255
Gly	Met	Leu	Leu	Gly	Gly	Arg	Pro	Thr	Ser	Thr	Arg	Glu	Gln	Met	260	265	270
Gln	Gln	Val	Leu	Glu	Leu	Glu	Ile	Gln	Leu	Ala	Asn	Ile	Thr	Val	275	280	285
Pro	Gln	Asp	Gln	Arg	Arg	Asp	Glu	Glu	Lys	Ile	Tyr	His	Lys	Met	290	295	300
Ser	Ile	Ser	Glu	Leu	Gln	Ala	Leu	Ala	Pro	Ser	Met	Asp	Trp	Leu	305	310	315
Glu	Phe	Leu	Ser	Phe	Leu	Leu	Ser	Pro	Leu	Glu	Leu	Ser	Asp	Ser			







Asn	Gln	Tyr	Gln	Val	Asn	Gly	Glu	Arg	Leu	Asn	Gly	Arg	Gln	Thr
				620					625					630
Leu	Gly	Glu	Asn	Ile	Thr	Asp	Asn	Gly	Gly	Leu	Lys	Ala	Ala	Tyr
				635					640					645
Asn	Ala	Tyr	Lys	Ala	Trp	Leu	Arg	Lys	His	Gly	Glu	Glu	Gln	Gln
				650					655					660
Leu	Pro	Ala	Val	Gly	Leu	Thr	Asn	His	Gln	Leu	Phe	Phe	Val	Gly
				665					670					675
Phe	Ala	Gln	Val	Trp	Cys	Ser	Val	Arg	Thr	Pro	Glu	Ser	Ser	His
				680					685					690
Glu	Gly	Leu	Val	Thr	Asp	Pro	His	Ser	Pro	Ala	Arg	Phe	Arg	Val
				695					700					705
Leu	Gly	Thr	Leu	Ser	Asn	Ser	Arg	Asp	Phe	Leu	Arg	His	Phe	Gly
				710					715					720
Cys	Pro	Val	Gly	Ser	Pro	Met	Asn	Pro	Gly	Gln	Leu	Cys	Glu	Val
				725					730					735

Trp

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30  
31  
32  
33  
34  
35  
36  
37  
38  
39  
40  
41  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60  
61  
62  
63  
64  
65  
66  
67  
68  
69  
70  
71  
72  
73  
74  
75  
76  
77  
78  
79  
80  
81  
82  
83  
84  
85  
86  
87  
88  
89  
90  
91  
92  
93  
94  
95  
96  
97  
98  
99  
100  
101  
102  
103  
104  
105  
106  
107  
108  
109  
110  
111  
112  
113  
114  
115  
116  
117  
118  
119  
120  
121  
122  
123  
124  
125  
126  
127  
128  
129  
130  
131  
132  
133  
134  
135  
136  
137  
138  
139  
140  
141  
142  
143  
144  
145  
146  
147  
148  
149  
150  
151  
152  
153  
154  
155  
156  
157  
158  
159  
160  
161  
162  
163  
164  
165  
166  
167  
168  
169  
170  
171  
172  
173  
174  
175  
176  
177  
178  
179  
180  
181  
182  
183  
184  
185  
186  
187  
188  
189  
190  
191  
192  
193  
194  
195  
196  
197  
198  
199  
200  
201  
202  
203  
204  
205  
206  
207  
208  
209  
210  
211  
212  
213  
214  
215  
216  
217  
218  
219  
220  
221  
222  
223  
224  
225  
226  
227  
228  
229  
230  
231  
232  
233  
234  
235  
236  
237  
238  
239  
240  
241  
242  
243  
244  
245  
246  
247  
248  
249  
250  
251  
252  
253  
254  
255  
256  
257  
258  
259  
260  
261  
262  
263  
264  
265  
266  
267  
268  
269  
270  
271  
272  
273  
274  
275  
276  
277  
278  
279  
280  
281  
282  
283  
284  
285  
286  
287  
288  
289  
290  
291  
292  
293  
294  
295  
296  
297  
298  
299  
300  
301  
302  
303  
304  
305  
306  
307  
308  
309  
310  
311  
312  
313  
314  
315  
316  
317  
318  
319  
320  
321  
322  
323  
324  
325  
326  
327  
328  
329  
330  
331  
332  
333  
334  
335  
336  
337  
338  
339  
340  
341  
342  
343  
344  
345  
346  
347  
348  
349  
350  
351  
352  
353  
354  
355  
356  
357  
358  
359  
360  
361  
362  
363  
364  
365  
366  
367  
368  
369  
370  
371  
372  
373  
374  
375  
376  
377  
378  
379  
380  
381  
382  
383  
384  
385  
386  
387  
388  
389  
390  
391  
392  
393  
394  
395  
396  
397  
398  
399  
400  
401  
402  
403  
404  
405  
406  
407  
408  
409  
410  
411  
412  
413  
414  
415  
416  
417  
418  
419  
420  
421  
422  
423  
424  
425  
426  
427  
428  
429  
430  
431  
432  
433  
434  
435  
436  
437  
438  
439  
440  
441  
442  
443  
444  
445  
446  
447  
448  
449  
450  
451  
452  
453  
454  
455  
456  
457  
458  
459  
460  
461  
462  
463  
464  
465  
466  
467  
468  
469  
470  
471  
472  
473  
474  
475  
476  
477  
478  
479  
480  
481  
482  
483  
484  
485  
486  
487  
488  
489  
490  
491  
492  
493  
494  
495  
496  
497  
498  
499  
500

<210> 527  
 <211> 4308  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> 1478, 3978, 4057-4058, 4070  
 <223> unknown base

<400> 527  
 gcccgccct ccgccctccg cactcccgcc tccctccctc cgcccgctcc 50  
 cgcgccctcc tccctccctc ctccccagct gtcccggtcg cgtcatgccg 100  
 agcctcccgg ccccgccggc cccgctgctg ctctcggggc tgctgctgct 150  
 cggtcccggg ccggcccgcg gcgccggccc agagcccccc gtgctgceca 200  
 tccgttctga gaaggagccg ctgcccgttc ggggagcggc aggtaggtgg 250  
 gcgcccgggg gaggcgcggg cggggagtcg ggctcggggc gagtcagcgc 300  
 cagcccggag ggggcgcggg gcgcaggtgg ctcggcgcgg cgggcggccc 350  
 ggaggggtgg cgggggcaga agggcgcggt gcctgggacc cgggacccgc 400  
 gggcagcccc cggggcgga cacggcgca gctgggcagc ggctccagc 450  
 caagcccgtc cccgcaggct gcaccttcgg cgggaaggtc tatgccttgg 500



acgagacgtg gcacccggac ctaggggagc cattcggggt gatgcgctgc 550  
 gtgctgtgcg cctgcgaggc gcagtgggt cgccgtacca ggggccctgg 600  
 cagggtcagc tgcaagaaca tcaaaccaga gtgccaacc ccggcctgtg 650  
 ggcagccgcg ccagctgcg ggacactgct gccagacctg cccccaggac 700  
 ttcgtggcgc tgctgacagg gccgaggtcg caggcggtgg cacgagccc 750  
 agtctcgctg ctgcgctcta gcctccgctt ctctatctcc tacaggcggc 800  
 tggaccgccc taccaggatc cgcttctcag actccaatgg cagtgtcctg 850  
 tttgagcacc ctgcagcccc cacccaagat ggcttgggtc gtggggtgtg 900  
 gcgggcagtg cctcggttgt ctctgcggct ccttagggca gaacagctgc 950  
 atgtggcact tgtgacactc actcaccctt caggggaggt ctgggggcct 1000  
 ctcatccggc accgggccct gtccccagag accttcagt ccatcctgac 1050  
 tctagaaggg ccccaccagc agggcgtagg gggcatcacc ctgctcactc 1100  
 tcagtgcac agaggactcc ttgcattttt tgctgctctt ccgaggcctt 1150  
 gcaggactaa ccaggttcc cttgaggctc cagattctac accaggggca 1200  
 gctactgcga gaacttcagg ccaatgtctc agcccaggaa ccaggctttg 1250  
 ctgagggtgt gcccaacctg acagtccagg agatggactg gctgggtgctg 1300  
 ggggagctgc agatggccct ggagtgggca ggcaggccag ggctgcgcat 1350  
 cagtggacac attgctgcca ggaagagctg cgacgtcctg caaagtgtcc 1400  
 tttgtggggc taatgcctg atcccagtcc aaacgggtgc tgccggctca 1450  
 gccagcctca ctctgctagg aaatggcncc ctgatoctcc aggtgcaatt 1500  
 ggtagggaca accagtgagg tggtaggcat gacactggaa accaagcctc 1550  
 agcggagggg tcagcccact gtccgtgtgc acatggctgg cctatcctcc 1600  
 cctgccccca ggccgtgggt atctgccctg ggctggggtg cccgaggggc 1650  
 tcatatgctg ctgcagaatg agctcttct gaacgtgggc accaaggact 1700  
 tcccagacgg agagcttcgg gggcaacgtg gctgcctgc cctactgtgg 1750  
 ggcatagcgc ccgccctgcc cgtgccocta gcaggagccc tgggtgctacc 1800  
 ccctgtgaag agccaagcag cagggcacgc ctggctttcc ttggataccc 1850  
 actgtcacct gcactatgaa gtgctgctgg ctgggcttgg tggctcagaa 1900  
 caaggcactg tcactgcca cctccttggg cctcctggaa cgccagggcc 1950







gcctctccac tccctctccc ctctccaac attccctccc ttctgtctcc 3450  
agcagcccca gagaccagaa ctgatccaga gctggagaaa gaagccgaag 3500  
gctcttaggg agcagccaga gggccaagtg accaagagga tggggcctga 3550  
gctggggaag ggggtggcatc gaggaccttc ttgcattctc ctgtgggaag 3600  
cccagtgcct ttgctcctct gtcctgcctc tactcccacc cccactacct 3650  
ctgggaacca cagctccaca agggggagag gcagctgggc cagaccgagg 3700  
tcacagccac tccaagtcct gccctgccac cctcggcctc tgtcctggaa 3750  
gccccacccc tttcttctg tacataatgt cactggcttg ttgggatttt 3800  
taatttatct tctctcagca ccaagggccc cggacactcc actcctgctg 3850  
cccctgagct gagcagagtc attattggag agttttgtat ttattaaaac 3900  
atttcttttt cagtctttgg gcatgaggtt ggctctttgt ggccaggaac 3950  
ctgagtgggg cctggtggag aaggggcnga gagtaggagg tgagagagag 4000  
gagctctgac acttggggag ctgaaagaga cctggagagg cagaggatag 4050  
cgtggcnntt ggctggcatn cctgggttcc gcagaggggc tggggatggt 4100  
tcttgagatg gtctagagac tcaagaattt agggaaagtag aagcaggatt 4150  
ttgactcaag tttagtttcc cacatcgctg gcctgtttgc tgacttcatg 4200  
tttgaagttg ctccagagag agaatcaaag gtgtcaccag cccctctctc 4250  
cctccttccc ttcccttccc tttcttccc tcccctccc tcccctccc 4300  
tcccctcc 4308

<210> 528

<211> 1285

<212> DNA

<213> Homo sapiens

<400> 528

ggccgagcgg ggggtgctgcg cggcggccgt gatggctggt gacggcgggg 50  
ccgggcaggg gaccggggcc gcggcccggg agcgggccag ctgccgggag 100  
ccctgaatca ccgcctggcc cgactccacc atgaacgtcg cgctgcagga 150  
gctgggagct ggcagcaacg tgggattcca gaaggggaca agacagctgt 200  
taggctcacg cacgcagctg gagctggtct tagcaggtgc ctctctactg 250  
ctggctgcac tgcttctggg ctgccttggt gccctagggg tccagtacca 300  
cagagacca tccacagca cctgccttac agaggcctgc attcgagtgg 350



ctggaaaaat cctggagtcc ctggaccgag gggtgagccc ctgtgaggac 400  
 ttttaccagt tctcctgtgg gggctggatt cggaggaacc ccctgcccga 450  
 tgggcgttct cgctggaaca ccttcaacag cctctgggac caaaaccagg 500  
 ccatactgaa gcacctgctt gaaaacacca ccttcaactc cagcagttaa 550  
 gctgagcaga agacacagcg cttctaccta tcttgcctac aggtggagcg 600  
 cattgaggag ctgggagccc agccactgag agacctcatt gagaagattg 650  
 gtggttggaa cattacgggg ccctgggacc aggacaactt tatggaggtg 700  
 ttgaaggcag tagcaggggac ctacagggcc accccattct tcaccgtcta 750  
 catcagtgcc gactctaaga gttccaacag caatgttatc caggtggacc 800  
 agtctgggct ctttctgccc tctcgggatt actacttaaa cagaactgcc 850  
 aatgagaaag taaggaacat cttccgaacc cccatcccta cccctggctg 900  
 agctgggctg atccctgttg acttttccct ttgccaaggg tcagagcagg 950  
 gaaggtgagc ctatcctgtc acctagttaa caaactgccc ctcccttctt 1000  
 tcttcttttc ttcctccctc cctccctttc ttcccttttt ccttcttcc 1050  
 ttcctcttat tcttctagta ggtttcatag acacctactg tgtgccagg 1100  
 ccagtggggg aattcggaga tataagtttc cgagccattg ccacaggaag 1150  
 cgttcagtgt cgatgggttc atggacctag ataggctgat aacaaagctc 1200  
 acaagagggt cctgaggatt caggagagac ttatggagcc agcaaagtct 1250  
 tcctgaagag attgcatttg agccagggtcc tgtag 1285

<210> 529  
 <211> 1380  
 <212> DNA  
 <213> Homo sapiens

<400> 529  
 atgcctacta cttccaact aagaatgaga tcgtcttccc cgctggcacc 50  
 ctgcaggccc ctttctatgc ccgcaaccac cccaaggccc tgaacttcgg 100  
 tggcatcggg gtggtcatgg gccatgagtt gacgcatgcc tttgatgacc 150  
 aagggcgcgga gtatgacaaa gaagggaacc tgccggccctg gtggcagaat 200  
 gagtccctgg cagccttccg gaaccacacg gcctgcatgg aggaacagta 250  
 caatcaatac caggtcaatg gggagaggct caacggccgc cagacgctgg 300  
 gggagaacat tgctgacaac ggggggctga aggctgccta caatgcttac 350







<220>  
<223> Synthetic oligonucleotide probe

<400> 531  
acgcagctgg agctggtctt agca 24

<210> 532  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 532  
ggtactggac ccctagggcc acaa 24

<210> 533  
<211> 21  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 533  
cctcccagcc gagaccagtg g 21

<210> 534  
<211> 21  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 534  
ggtcctataa gggccaagac c 21

<210> 535  
<211> 44  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 535  
gactagttct agatcgcgag cggccgccct tttttttttt tttt 44

<210> 536  
<211> 16  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe



<400> 536  
 cggacgcgtg ggtcga 16  
  
 <210> 537  
 <211> 21  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 537  
 cggccgtgat ggctggtgac g 21  
  
 <210> 538  
 <211> 20  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 538  
 ggcagactcc ttcctatggg 20  
  
 <210> 539  
 <211> 21  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 539  
 ggcacttcat ggtccttgaa a 21  
  
 <210> 540  
 <211> 22  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 540  
 cggatgtgtg tgaggccatg cc 22  
  
 <210> 541  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 541  
 gaaagtaacc acggaggtca agat 24



<210> 542  
<211> 21  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 542  
cctcctccga gactgaaagc t 21

<210> 543  
<211> 22  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 543  
tcgcgttgct ttttctcgcg tg 22

<210> 544  
<211> 17  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 544  
gcgtgcgtca ggttcca 17

<210> 545  
<211> 19  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 545  
cgttcgtgca gcgtgtgta 19

<210> 546  
<211> 22  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 546  
cttcctcacc acctgcgacg gg 22

<210> 547  
<211> 23  
<212> DNA



<213> Artificial Sequence  
 <220>  
 <223> Synthetic oligonucleotide probe  
 <400> 547  
 ggtaggcggt cctatagatg gtt 23  
 <210> 548  
 <211> 23  
 <212> DNA  
 <213> Artificial Sequence  
 <220>  
 <223> Synthetic oligonucleotide probe  
 <400> 548  
 agatgtggat gaatgcagtg cta 23  
 <210> 549  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence  
 <220>  
 <223> Synthetic oligonucleotide probe  
 <400> 549  
 atcaacaccg ccggcagtta ctgg 24  
 <210> 550  
 <211> 23  
 <212> DNA  
 <213> Artificial Sequence  
 <220>  
 <223> Synthetic oligonucleotide probe  
 <400> 550  
 acagagtgta ccgtctgcag aca 23  
 <210> 551  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
 <220>  
 <223> Synthetic oligonucleotide probe  
 <400> 551  
 agcctcctgg tgcactcct 19  
 <210> 552  
 <211> 25  
 <212> DNA  
 <213> Artificial Sequence  
 <220>



```

<223> Synthetic oligonucleotide probe

<400> 552
cgactccctg agcgagcaga tttcc 25

<210> 553
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 553
gctgggcagt cacgagtctt 20

<210> 554
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 554
aatcctccat ctcagatctt ccag 24

<210> 555
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 555
cctcagcggc aacagccggc c 21

<210> 556
<211> 15
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 556
tggccaagg gctgc 15

<210> 557
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 557

```



tggtggataa ccaacaagat gg 22

<210> 558

<211> 34

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 558

gagtctgcat ccacaccact cttaaagttc tcaa 34

<210> 559

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 559

caggtgctct tttcagtcac gttt 24

<210> 560

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 560

tggccattct caggacaaga g 21

<210> 561

<211> 26

<212> DNA

<213> Artificial Sequence

<220>

<223> synthetic oligonucleotide probe

<400> 561

cagtaatgcc atttgcctgc ctgcat 26

<210> 562

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 562

tgcttggaat cacatgaca 19

<210> 563



```

<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> synthetic oligonucleotide probe

<400> 563
tgtggcacag acccaatcct 20

<210> 564
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 564
gaccctgaag gcctccggcc t 21

<210> 565
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 565
gagagaggga aggcagctat gtc 23

<210> 566
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 566
cagcccctct ctttcacctg t 21

<210> 567
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide probe

<400> 567
ccatcctgtg cagctgacac acagc 25

<210> 568
<211> 20
<212> DNA
<213> Artificial Sequence

```



<220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 568  
 gccaggctat gaggctcctt 20  
  
 <210> 569  
 <211> 23  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 569  
 ttcaagttcc tgaagccgat tat 23  
  
 <210> 570  
 <211> 23  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 570  
 ccaacttccc tccccagtg cct 23  
  
 <210> 571  
 <211> 26  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 571  
 ttggggaagg tagaatttcc ttgtat 26  
  
 <210> 572  
 <211> 20  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 572  
 cccttctgcc tcccaattct 20  
  
 <210> 573  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe



<400> 573  
tctcctccgt ccccttcctc cact 24

<210> 574  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 574  
tgagccactg ccttgcatta 20

<210> 575  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 575  
tctgcagacg cgatggataa 20

<210> 576  
<211> 26  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 576  
ccgaaaataa aacatcgccc cttctg 26

<210> 577  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 577  
cacgtggcct ttcacactga 20

<210> 578  
<211> 25  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 578  
acttgtgaca gcagtatgct gtctt 25



<210> 579  
<211> 26  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 579  
aagcttctgt tcaatcccag cggtcc 26

<210> 580  
<211> 22  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 580  
atgcacaggc tttttctggt aa 22

<210> 581  
<211> 22  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 581  
gcaggaaacc ttcgaatctg ag 22

<210> 582  
<211> 29  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 582  
acacctgagg cacctgagag aggaactct 29

<210> 583  
<211> 21  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 583  
gacagcccag tacacctgca a 21

<210> 584  
<211> 21  
<212> DNA



<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 584

gacggctgga tctgtgagaa a 21

<210> 585

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 585

cacaactgct gaccccgccc a 21

<210> 586

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 586

ccaggatacg acatgctgca 20

<210> 587

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 587

aaactccaac ctgtatcaga tgca 24

<210> 588

<211> 25

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 588

cccccaagcc cttagactct aagcc 25

<210> 589

<211> 19

<212> DNA

<213> Artificial Sequence

<220>



<223> Synthetic oligonucleotide probe  
 <400> 589  
 gacccggcac cttgctaac 19  
 <210> 590  
 <211> 21  
 <212> DNA  
 <213> Artificial Sequence  
 <220>  
 <223> Synthetic oligonucleotide probe  
 <400> 590  
 ggacggtcag tcaggatgac a 21  
 <210> 591  
 <211> 25  
 <212> DNA  
 <213> Artificial Sequence  
 <220>  
 <223> Synthetic oligonucleotide probe  
 <400> 591  
 ttcggcatca tctcttccct ctccc 25  
 <210> 592  
 <211> 25  
 <212> DNA  
 <213> Artificial Sequence  
 <220>  
 <223> Synthetic oligonucleotide probe  
 <400> 592  
 acaaaaaaaaaa gggaacaaaa tacga 25  
 <210> 593  
 <211> 28  
 <212> DNA  
 <213> Artificial Sequence  
 <220>  
 <223> Synthetic oligonucleotide probe  
 <400> 593  
 ctttgaatag aagacttctg gacaattt 28  
 <210> 594  
 <211> 30  
 <212> DNA  
 <213> Artificial Sequence  
 <220>  
 <223> Synthetic oligonucleotide probe  
 <400> 594



ttgcaactgg gaatatacca cgacatgaga 30

<210> 595

<211> 26

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 595

taggttgcta atttgtgcta taacct 26

<210> 596

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 596

ggctctgagt ctctgcttga 20

<210> 597

<211> 25

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 597

tccaacaacc attttcctct ggtcc 25

<210> 598

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 598

aagcagtagc cattaacaag tca 23

<210> 599

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 599

caagcgtcca ggtttattga 20

<210> 600



<211> 20  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 600  
 gactacaagg cgctcagcta 20  
  
 <210> 601  
 <211> 21  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 601  
 ccggctgggt ctcaactctc c 21  
  
 <210> 602  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 602  
 cggtcgtgca gcgtgtgta 19  
  
 <210> 603  
 <211> 22  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 603  
 cttcctcacc acctgacgacg gg 22  
  
 <210> 604  
 <211> 23  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Synthetic oligonucleotide probe  
  
 <400> 604  
 ggtaggcggt cctatagatg gtt 23  
  
 <210> 605  
 <211> 23  
 <212> DNA  
 <213> Artificial Sequence



<220>  
<223> Synthetic oligonucleotide probe

<400> 605  
agatgtggat gaatgcagtg cta 23

<210> 606  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 606  
atcaacaccg ccggcagtta ctgg 24

<210> 607  
<211> 23  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 607  
acagagtgta ccgtctgcag aca 23

<210> 608  
<211> 19  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 608  
agcctcctgg tgcactcct 19

<210> 609  
<211> 25  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 609  
cgactccctg agcgagcaga tttcc 25

<210> 610  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe



<400> 610  
gctgggcagt cacgagtctt 20

<210> 611  
<211> 2840  
<212> DNA  
<213> Homo Sapien

<400> 611  
cccacgcgtc cgagccgccc gagaattaga cacactccgg acgcggccaa 50  
aagcaaccga gaggagggga ggcaaaaaca ccgaaaaaca aaaagagaga 100  
aacaacaccc aacaactggg gtgggggggaa gaaagaaaga aaagaaaccc 150  
accacccac caaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaatc 200  
ctgtggcgcg ccgcctggtt cccgggaaga ctcgccagca ccagggggtg 250  
ggggagtgcg agctgaaagc tgctggagag tgagcagccc tagcagggat 300  
ggacatgatg ctgttggtgc aggggtgctt ttgctcgaac cagtggctgg 350  
cggcggtgct cctcagcctg tgctgcctgc taccctcctg cctcccggt 400  
ggacagagtg tggacttccc ctgggcggcc gtggacaaca tgatggtcag 450  
aaaaggggac acggcggtgc ttaggtgtta tttggaagat ggagcttcaa 500  
aggggtgcctg gctgaaccgg tcaagtatta tttttgcggg aggtgataag 550  
tggtcagtgg atcctcgagt ttcaatttca acattgaata aaagggacta 600  
cagcctccag atacagaatg tagatgtgac agatgatggc ccatacacgt 650  
gttctgttca gactcaacat acaccagaa caatgcaggt gcatctaact 700  
gtgcaagttc ctcctaagat atatgacatc tcaaatgata tgaccgtcaa 750  
tgaaggaacc aacgtcactc ttacttgttt ggccactggg aaaccagagc 800  
cttccatttc ttggcgacac atctcccat cagcaaaacc atttgaatat 850  
ggacaatatt tggacattta tggaattaca agggaccagg ctggggaata 900  
tgaatgcagt gcggaaaatg ctgtgtcatt cccagatgtg aggaaagtaa 950  
aagttgttgt caactttgct cctactattc aggaaattaa atctggcacc 1000  
gtgacccccg gacgcagtgg cctgataaga tgtgaagggtg caggtgtgcc 1050  
gcctccagcc tttgaatggt acaaaggaga gaagaagctc ttcaatggcc 1100  
aacaaggaat tattattcaa aattttagca caagatccat tctcactgtt 1150  
accaacgtga cacaggagca cttcggaat tatacctgtg tggctgcaa 1200  
caagctaggc acaaccaatg cgagcctgcc tcttaaccct ccaagtacag 1250



ccagtatggtg	aattaccggg	agcgctgatg	ttctttttctc	ctgctgggtac	1300
cttgtgttga	cactgtcctc	tttcaccagc	atattctacc	tgaagaatgc	1350
cattctacaa	taaattcaaa	gacccataaa	aggcttttaa	ggattctctg	1400
aaagtgctga	tggctggatc	caatctggta	cagtttgta	aaagcagcgt	1450
gggatataat	cagcagtgtc	tacatgggga	tgatgcctt	ctgtagaatt	1500
gctcattatg	taaatacttt	aattctactc	ttttttgatt	agctacatta	1550
ccttgtgaag	cagtacacat	tgtccttttt	ttaagacgtg	aaagctctga	1600
aattactttt	agaggatatt	aattgtgatt	tcattgtttgt	aatctacaac	1650
ttttcaaaag	cattcagtc	tggctctgcta	ggttgccaggc	tgtagtttac	1700
aaaaacgaat	attgcagtga	atatgtgatt	ctttaaggct	gcaatacaag	1750
cattcagttc	cctgtttcaa	taagagtcaa	tccacattta	caaagatgca	1800
tttttttctt	ttttgataaa	aaagcaaata	atattgcctt	cagattattt	1850
cttcaaaata	taacacatat	ctagattttt	ctgcttgcat	gatattcagg	1900
tttcaggaat	gagccttgta	atataactgg	ctgtgcagct	ctgcttctct	1950
ttcctgtaag	ttcagcatgg	gtgtgccttc	atacaataat	atttttctct	2000
ttgtctccaa	ctaataataa	atgttttgct	aaatcttaca	atttgaaagt	2050
aaaaataaac	cagagtgatc	aagttaaacc	atacactatc	tctaagtaac	2100
gaaggagcta	ttggactgta	aaaatctctt	cctgcactga	caatgggggt	2150
tgagaatttt	gccccacact	aactcagttc	ttgtgatgag	agacaattta	2200
ataacagtat	agtaaataa	ccatatgatt	tctttagtgt	tagctaaatg	2250
ttagatccac	cgtgggaaat	cattcccttt	aaaatgacag	cacagtccac	2300
tcaaaggatt	gcctagcaat	acagcatctt	ttcctttcac	tagtccaagc	2350
caaaaatttt	aagatgattt	gtcagaaagg	gcacaaagtc	ctatcaccta	2400
atattacaag	agttggtaag	cgtcatcat	taattttatt	ttgtggcagg	2450
tattatgaca	gtcgacctgg	agggtatgga	tatggatatg	gacgttccag	2500
agactataat	ggcagaaacc	aggggtggta	tgaccgctac	tcaggaggaa	2550
attacagaga	caattatgac	aactgaaatg	agacatgcac	ataatataga	2600
tacacaagga	ataatttctg	atccaggatc	gtccttccaa	atggctgtat	2650
ttataaagggt	ttttggagct	gcactgaagc	atcttatttt	ataqtatatc	2700



aaccttttgt ttttaaattg acctgccaag gtagctgaag acctttttaga 2750  
 cagttccatc ttttttttta aattttttct gcctatttaa agacaaatta 2800  
 tgggacgttt gtcaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 2840

<210> 612  
 <211> 352  
 <212> PRT  
 <213> Homo Sapien

<400> 612

Met	Met	Leu	Leu	Val	Gln	Gly	Ala	Cys	Cys	Ser	Asn	Gln	Trp	Leu	1	5	10	15
Ala	Ala	Val	Leu	Leu	Ser	Leu	Cys	Cys	Leu	Leu	Pro	Ser	Cys	Leu	20	25	30	
Pro	Ala	Gly	Gln	Ser	Val	Asp	Phe	Pro	Trp	Ala	Ala	Val	Asp	Asn	35	40	45	
Met	Met	Val	Arg	Lys	Gly	Asp	Thr	Ala	Val	Leu	Arg	Cys	Tyr	Leu	50	55	60	
Glu	Asp	Gly	Ala	Ser	Lys	Gly	Ala	Trp	Leu	Asn	Arg	Ser	Ser	Ile	65	70	75	
Ile	Phe	Ala	Gly	Gly	Asp	Lys	Trp	Ser	Val	Asp	Pro	Arg	Val	Ser	80	85	90	
Ile	Ser	Thr	Leu	Asn	Lys	Arg	Asp	Tyr	Ser	Leu	Gln	Ile	Gln	Asn	95	100	105	
Val	Asp	Val	Thr	Asp	Asp	Gly	Pro	Tyr	Thr	Cys	Ser	Val	Gln	Thr	110	115	120	
Gln	His	Thr	Pro	Arg	Thr	Met	Gln	Val	His	Leu	Thr	Val	Gln	Val	125	130	135	
Pro	Pro	Lys	Ile	Tyr	Asp	Ile	Ser	Asn	Asp	Met	Thr	Val	Asn	Glu	140	145	150	
Gly	Thr	Asn	Val	Thr	Leu	Thr	Cys	Leu	Ala	Thr	Gly	Lys	Pro	Glu	155	160	165	
Pro	Ser	Ile	Ser	Trp	Arg	His	Ile	Ser	Pro	Ser	Ala	Lys	Pro	Phe	170	175	180	
Glu	Asn	Gly	Gln	Tyr	Leu	Asp	Ile	Tyr	Gly	Ile	Thr	Arg	Asp	Gln	185	190	195	
Ala	Gly	Glu	Tyr	Glu	Cys	Ser	Ala	Glu	Asn	Ala	Val	Ser	Phe	Pro	200	205	210	
Asp	Val	Arg	Lys	Val	Lys	Val	Val	Val	Asn	Phe	Ala	Pro	Thr	Ile	215	220	225	
Gln	Glu	Ile	Lys	Ser	Gly	Thr	Val	Thr	Pro	Gly	Arg	Ser	Gly	Leu				



	230		235		240
Ile Arg Cys Glu	Gly Ala Gly Val Pro	Pro Pro Ala Phe Glu	Trp		
	245	250	255		
Tyr Lys Gly Glu	Lys Lys Leu Phe Asn	Gly Gln Gln Gly Ile	Ile		
	260	265	270		
Ile Gln Asn Phe	Ser Thr Arg Ser Ile	Leu Thr Val Thr Asn	Val		
	275	280	285		
Thr Gln Glu His	Phe Gly Asn Tyr Thr	Cys Val Ala Ala Asn	Lys		
	290	295	300		
Leu Gly Thr Thr	Asn Ala Ser Leu Pro	Leu Asn Pro Pro Ser	Thr		
	305	310	315		
Ala Gln Tyr Gly	Ile Thr Gly Ser Ala	Asp Val Leu Phe Ser	Cys		
	320	325	330		
Trp Tyr Leu Val	Leu Thr Leu Ser Ser	Phe Thr Ser Ile Phe	Tyr		
	335	340	345		
Leu Lys Asn Ala	Ile Leu Gln				
	350				

<210> 613

<211> 1797

<212> DNA

<213> Homo Sapien

<400> 613

```

agtgggttcga tgggaaggat ctttctccaa gtgggttcctc ttgaggggag 50
catttctgct ggctccagga ctttgccat ctataaagct tggcaatgag 100
aaataagaaa atttcaagg aggacgagct cttgagttag acccaacaag 150
ctgcttttca ccaaattgca atggagcctt tcgaaatcaa tgttccaaag 200
cccaagagga gaaatggggg gaacttctcc ctagctgtgg tggatcatcta 250
cctgatcctg ctaccgctg gcgctgggct gctggtgggc caagttctga 300
atctgcaggc gcggctccgg gtcctggaga tgtatttctt caatgacact 350
ctggcggctg aggacagccc gtccttctcc ttgctgcagt cagcacaccc 400
tggaagaacac ctgggtcagg gtgcatcgag gctgcaagtc ctgcaggccc 450
aactcacctg ggtccgctg agccatgagc acttgctgca gcgggtagac 500
aacttcactc agaaccagc gatgttcaga atcaaagggtg aacaaggcgc 550
cccaggctct caaggtcaca agggggccat gggcatgcct ggtgcccctg 600
ccccgccggg accacctgct gagaaggag ccaagggggc tatgggacga 650

```







Ile	Asn	Val	Pro	Lys	Pro	Lys	Arg	Arg	Asn	Gly	Val	Asn	Phe	Ser	35	40	45
Leu	Ala	Val	Val	Val	Ile	Tyr	Leu	Ile	Leu	Leu	Thr	Ala	Gly	Ala	50	55	60
Gly	Leu	Leu	Val	Val	Gln	Val	Leu	Asn	Leu	Gln	Ala	Arg	Leu	Arg	65	70	75
Val	Leu	Glu	Met	Tyr	Phe	Leu	Asn	Asp	Thr	Leu	Ala	Ala	Glu	Asp	80	85	90
Ser	Pro	Ser	Phe	Ser	Leu	Leu	Gln	Ser	Ala	His	Pro	Gly	Glu	His	95	100	105
Leu	Ala	Gln	Gly	Ala	Ser	Arg	Leu	Gln	Val	Leu	Gln	Ala	Gln	Leu	110	115	120
Thr	Trp	Val	Arg	Val	Ser	His	Glu	His	Leu	Leu	Gln	Arg	Val	Asp	125	130	135
Asn	Phe	Thr	Gln	Asn	Pro	Gly	Met	Phe	Arg	Ile	Lys	Gly	Glu	Gln	140	145	150
Gly	Ala	Pro	Gly	Leu	Gln	Gly	His	Lys	Gly	Ala	Met	Gly	Met	Pro	155	160	165
Gly	Ala	Pro	Gly	Pro	Pro	Gly	Pro	Pro	Ala	Glu	Lys	Gly	Ala	Lys	170	175	180
Gly	Ala	Met	Gly	Arg	Asp	Gly	Ala	Thr	Gly	Pro	Ser	Gly	Pro	Gln	185	190	195
Gly	Pro	Pro	Gly	Val	Lys	Gly	Glu	Ala	Gly	Leu	Gln	Gly	Pro	Gln	200	205	210
Gly	Ala	Pro	Gly	Lys	Gln	Gly	Ala	Thr	Gly	Thr	Pro	Gly	Pro	Gln	215	220	225
Gly	Glu	Lys	Gly	Ser	Lys	Gly	Asp	Gly	Gly	Leu	Ile	Gly	Pro	Lys	230	235	240
Gly	Glu	Thr	Gly	Thr	Lys	Gly	Glu	Lys	Gly	Asp	Leu	Gly	Leu	Pro	245	250	255
Gly	Ser	Lys	Gly	Asp	Arg	Gly	Met	Lys	Gly	Asp	Ala	Gly	Val	Met	260	265	270
Gly	Pro	Pro	Gly	Ala	Gln	Gly	Ser	Lys	Gly	Asp	Phe	Gly	Arg	Pro	275	280	285
Gly	Pro	Pro	Gly	Leu	Ala	Gly	Phe	Pro	Gly	Ala	Lys	Gly	Asp	Gln	290	295	300
Gly	Gln	Pro	Gly	Leu	Gln	Gly	Val	Pro	Gly	Pro	Pro	Gly	Ala	Val	305	310	315
Gly	His	Pro	Gly	Ala	Lys	Gly	Glu	Pro	Gly	Ser	Ala	Gly	Ser	Pro			



				320					325					330
Gly	Arg	Ala	Gly	Leu 335	Pro	Gly	Ser	Pro	Gly 340	Ser	Pro	Gly	Ala	Thr 345
Gly	Leu	Lys	Gly	Ser 350	Lys	Gly	Asp	Thr	Gly 355	Leu	Gln	Gly	Gln	Gln 360
Gly	Arg	Lys	Gly	Glu 365	Ser	Gly	Val	Pro	Gly 370	Pro	Ala	Gly	Val	Lys 375
Gly	Glu	Gln	Gly	Ser 380	Pro	Gly	Leu	Ala	Gly 385	Pro	Lys	Gly	Ala	Pro 390
Gly	Gln	Ala	Gly	Gln 395	Lys	Gly	Asp	Gln	Gly 400	Val	Lys	Gly	Ser	Ser 405
Gly	Glu	Gln	Gly	Val 410	Lys	Gly	Glu	Lys	Gly 415	Glu	Arg	Gly	Glu	Asn 420
Ser	Val	Ser	Val	Arg 425	Ile	Val	Gly	Ser	Ser 430	Asn	Arg	Gly	Arg	Ala 435
Glu	Val	Tyr	Tyr	Ser 440	Gly	Thr	Trp	Gly	Thr 445	Ile	Cys	Asp	Asp	Glu 450
Trp	Gln	Asn	Ser	Asp 455	Ala	Ile	Val	Phe	Cys 460	Arg	Met	Leu	Gly	Tyr 465
Ser	Lys	Gly	Arg	Ala 470	Leu	Tyr	Lys	Val	Gly 475	Ala	Gly	Thr	Gly	Gln 480
Ile	Trp	Leu	Asp	Asn 485	Val	Gln	Cys	Arg	Gly 490	Thr	Glu	Ser	Thr	Leu 495
Trp	Ser	Cys	Thr	Lys 500	Asn	Ser	Trp	Gly	His 505	His	Asp	Cys	Ser	His 510
Glu	Glu	Asp	Ala	Gly 515	Val	Glu	Cys	Ser	Val 520					

```
<210> 615
<211> 647
<212> DNA
<213> Homo Sapien
```

```
<400> 615
cccacgcgctc cgaaggcaga caaagggttca tttgtaaaga agctccttcc 50
agcacctcct ctcttctcct tttgccaaa ctcacccagt gagtgtgagc 100
atttaagaag catcctctgc caagacccaaa aggaaagaag aaaaagggcc 150
aaaagccaaa atgaaactga tggtaactgt tttcaccatt gggctaactt 200
tgctgctagg agttcaagcc atgcctgcaa atcgctcttc ttgctacaga 250
aagatactaa aagatcacia ctgtcacaa cttccggaag gagtagctga 300
```



```

cctgacacag attgatgtca atgtccagga tcatttctgg gatgggaagg 350
gatgtgagat gatctgttac tgcaacttca gcgaattgct ctgctgcca 400
aaagacgttt tctttggacc aaagatctct ttctgtattc cttgcaacaa 450
tcaatgagaa tcttcatgta ttctggagaa caccattcct gatttccac 500
aaactgcact acatcagtat aactgcattt ctagtttcta tatagtgcaa 550
tagagcatag attctataaa ttcttacttg tctaagacaa gtaaattctgt 600
gttaacaag tagtaataaa agttaattca atctaaaaaa aaaaaa 647

```

<210> 616  
 <211> 98  
 <212> PRT  
 <213> Homo Sapien

<400> 616

```

Met Lys Leu Met Val Leu Val Phe Thr Ile Gly Leu Thr Leu Leu
 1             5             10             15
Leu Gly Val Gln Ala Met Pro Ala Asn Arg Leu Ser Cys Tyr Arg
                20             25             30
Lys Ile Leu Lys Asp His Asn Cys His Asn Leu Pro Glu Gly Val
                35             40             45
Ala Asp Leu Thr Gln Ile Asp Val Asn Val Gln Asp His Phe Trp
                50             55             60
Asp Gly Lys Gly Cys Glu Met Ile Cys Tyr Cys Asn Phe Ser Glu
                65             70             75
Leu Leu Cys Cys Pro Lys Asp Val Phe Phe Gly Pro Lys Ile Ser
                80             85             90
Phe Val Ile Pro Cys Asn Asn Gln
                95

```

<210> 617  
 <211> 2558  
 <212> DNA  
 <213> Homo Sapien

<400> 617

```

cccacgcgtc cgcggacgcg tgggctggac ccaggtctg gagcgaattc 50
cagcctgcag ggctgataag cgaggcatta gtgagattga gagagacttt 100
accccgccgt ggtggttggg gggcgcgag tagagcagca gcacaggcgc 150
gggtcccggg aggccggctc tgctcgcgcc gagatgtgga atctccttca 200
cgaaaccgac tcggctgtgg ccaccgcgcg ccgcccgcgc tggctgtgcg 250
ctggggcgct ggtgctggcg ggtggcttct ttctcctcgg cttcctcttc 300

```







tgttcttcca acgacttggga attgcttcag gcagagcacg gtatactaaa 1800  
 aattgggaaa caaacaatt cagcggctat ccactgtatc acagtgtcta 1850  
 tgaaacatat gagttggtgg aaaagtttta tgatccaatg tttaaataatc 1900  
 acctcactgt ggcccagggt cgaggaggga tgggtgttga gctagccaat 1950  
 tccatagtgc tcccttttga ttgtcgagat tatgctgtag ttttaagaaa 2000  
 gtatgctgac aaaatctaca gtatttctat gaaacatcca caggaaatga 2050  
 agacatacag tgtatcattt gattcacttt tttctgcagt aaagaatttt 2100  
 acagaaaattg cttccaagtt cagtgcagaga ctccaggact ttgacaaaag 2150  
 caaccaata gtattaagaa tgatgaatga tcaactcatg tttctggaaa 2200  
 gagcatttat tgatccatta gggttaccag acaggccttt ttataggcat 2250  
 gtcatttatg ctccaagcag ccacaacaag tatgcagggg agtcattccc 2300  
 aggaatttat gatgctctgt ttgatattga aagcaaagtg gacccttcca 2350  
 aggctgggg agaagtgaag agacagattt atgttgcagc cttcacagt 2400  
 caggcagctg cagagacttt gagtgaagta gcctaagagg attttttaga 2450  
 gaatccgtat tgaatttgtg tggatgtca ctcagaaaga atcgtaatgg 2500  
 gtatattgat aaattttaaa attggtatat ttgaaataaa gttgaatatt 2550  
 atatataa 2558

<210> 618  
 <211> 750  
 <212> PRT  
 <213> Homo Sapien

<400> 618  
 Met Trp Asn Leu Leu His Glu Thr Asp Ser Ala Val Ala Thr Ala  
 1 5 10 15  
 Arg Arg Pro Arg Trp Leu Cys Ala Gly Ala Leu Val Leu Ala Gly  
 20 25 30  
 Gly Phe Phe Leu Leu Gly Phe Leu Phe Gly Trp Phe Ile Lys Ser  
 35 40 45  
 Ser Asn Glu Ala Thr Asn Ile Thr Pro Lys His Asn Met Lys Ala  
 50 55 60  
 Phe Leu Asp Glu Leu Lys Ala Glu Asn Ile Lys Lys Phe Leu His  
 65 70 75  
 Asn Phe Thr Gln Ile Pro His Leu Ala Gly Thr Glu Gln Asn Phe  
 80 85 90











Ile	Asp	Pro	Leu	Gly	Leu	Pro	Asp	Arg	Pro	Phe	Tyr	Arg	His	Val
				680					685					690
Ile	Tyr	Ala	Pro	Ser	Ser	His	Asn	Lys	Tyr	Ala	Gly	Glu	Ser	Phe
				695					700					705
Pro	Gly	Ile	Tyr	Asp	Ala	Leu	Phe	Asp	Ile	Glu	Ser	Lys	Val	Asp
				710					715					720
Pro	Ser	Lys	Ala	Trp	Gly	Glu	Val	Lys	Arg	Gln	Ile	Tyr	Val	Ala
				725					730					735
Ala	Phe	Thr	Val	Gln	Ala	Ala	Ala	Glu	Thr	Leu	Ser	Glu	Val	Ala
				740					745					750

<210> 619  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 619  
 agatgtgaag gtgcaggtgt gccg 24

<210> 620  
 <211> 25  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 620  
 gaacatcagc gctcccggta attcc 25

<210> 621  
 <211> 46  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 621  
 ccagcctttg aatggtacaa aggagagaag aagctcttca atggcc 46

<210> 622  
 <211> 25  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 622  
 ccaaactcac ccagtgagtg tgagc 25



<210> 623  
<211> 25  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 623  
tgggaaatca ggaatggtgt tctcc 25

<210> 624  
<211> 50  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic Oligonucleotide probe

<400> 624  
cttgttttca ccattgggct aactttgctg ctaggagttc aagccatgcc 50